APPENDICITIS:

*A PLEA FOR IMMEDIATE OPERATION.**

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In April of last year a short paper of mine in the BRITISH MEDICAL JOURNAL, in which the word *quickness* was associated with the disease appendicitis, drew forth a good many letters. But the correspondence drifted into a wordy warfare in which the main object of the paper became somewhat obscured. When controversial ammunition seemed to be running short, the Editor closed the discussion, and announced that the subject would be reopened at an evening's debate before the Medical Society of London. And may the hope be expressed that in the forthcoming discussion, speakers will be so good as to confine their remarks as closely as possible to this question—"Is the best result in the treatment of appendicitis to be obtained in the greatest number of cases by immediate operation or by temporizing?"

The question of *when* to operate in a case of appendicitis is often one of extreme anxiety. The general practitioner finds it difficult; so may the operating surgeon. The only person to whom, in my experience, it appears as a simpler matter is the "illustrious" physician. He likes to take time in making up his mind; but whilst he is musing the fire burns. He sometimes prefers to see the presence, or even to await the development, of nearly all the classical signs of appendicitis before giving his consent to an operation, and his help in such circumstances is apt to be an embarrassment to the family doctor and to the surgeon, and to prejudice the patient's prospect of recovery. I have deliberately used the word *illustrious* in connexion with the physician, so that no physician may take it to himself that there is anything personal in the matter—unless, indeed, he deems himself to be really "illustrious." Perhaps, after all, the *illustrious* physician does not actually exist, any more than the illustrious surgeon—that he is but a figment of imagination—so no slur can possibly be conveyed by my words on any individual Fellow of the Sister College.

I will go so far as to say that patients with acute or subacute abdominal troubles ought not to be considered as medical cases at all. I remember some years ago a physician to a children's hospital writing upon the subject of intussusception, and speaking slightingly of what he called the *apotheosis* of surgical measures in the treatment of that disease. But if every child with intussusception were submitted to operation as soon as the diagnosis was made, much of the terror of this disease would be removed. Surely it is safer to deal with an intussusception directly and gently with a surgical finger and thumb, than to try and unravel the intestinal sheathing by forcible and blind distension of the large intestine. But that is not the question for this evening, and I drag it in only to strengthen my claim that true progress in acute abdominal disease is in the line of quick surgical assistance. Acute or subacute disease of the appendix is no more a "physician's case" than is one of septic gangrene of the foot, whitlow, or strangulated hernia, to each of which diseases, by-the-by, appendicitis has considerable pathological resemblance.

"UNNECESSARY" DEATHS.

If we look around the circle of our personal friends and acquaintances, say of the last twenty years, we can scarcely fail to realize the fact that a considerable number—or, at any rate, several—have dropped out as the result of blood poisoning started by disease of the appendix. Several colleagues and friends of my own have thus needlessly perished. Indeed, medical men, who in my opinion, ought to enjoy an exemption from all disease, have paid a heavy toll to appendicitis. Not a few have been rescued by prompt operation, but too many have not accepted for themselves that definite line of treatment which, in like circumstances, they would unhesitatingly recommend to those for whose health they were responsible. But unfortunately, medical men make, as a rule, bad patients—bad in this sense, that they do not readily hand themselves over, bodily and entirely, to their *confrères*, and bad also in that the *confrère*, when he has undertaken entire charge, is apt to hesitate to insist upon an extreme measure lest his views should fail to meet with the full acceptance of his friend. The adjective which I have applied to most of these deaths as "unnecessary" would not so readily be applied to a death from typhoid fever, cancer of the liver, or pneumonia, for instance, but it was *unnecessary* in that if only an early operation had been resorted to no calamity would probably have taken place. In Surgery, as in the affairs of the State, what is to be desired is the greatest good for the greatest number; and if we could have back amongst us those friends whom uncontrolled appendicular disease has taken away, and could start treatment afresh, and begin it by early removal of the inflamed appendix, many of them no doubt would still be with us. But, unfortunately, the nature of our work is such that we cannot have our failures back and try them over again in a different manner. The barrister who is not satisfied with the result which his conduct of a case has received from any particular Judge, can take the case up to another court and have it tried over again, altering his treatment, may be, and securing, perhaps, a different verdict. But there is no Court of Appeal for the surgeon who has been unsuccessful in his management of a case. It behoves him, therefore, so to act that he may take no needless risk when entering into a contest with his great Adversary, the Man with the Scythe. Nearly all these deaths, I insist, were unnecessary, and the imaginary illustrious physician would himself admit, as he looks back, that not a few of the cases which he has seen in consultation might have been saved if earlier operation had been resorted to. Though there is no Court of Appeal open to the unsuccessful operator, the physician must feel that *his* branch of the Profession is less closely shut in, and I can scarcely imagine the physician, in his practice, being placed in a position of such intense anxiety as is the operating surgeon when he is suddenly called upon to insist upon the necessity of an operation in a case of appendicitis, whilst surrounded by a group of the patient's friends and relations unconscious of near danger, and expecting to hear smooth words.

UNCERTAINTY CONCERNING ACTUAL CONDITION OF APPENDIX.

Appendicitis is different from most other acute diseases in this, that one cannot tell exactly what is the state of affairs without making an incision. The senses are prevented in their working, in that the deeply-lying appendix is unapproachable. In the case of pneumonia, bronchitis, or heart disease the ear tells precisely what is wrong and how things are going; when the liver, the kidney, or the bladder is in trouble the sense of touch imparts valuable or precise information, whilst in most cases the eye gives important help. But an inflamed appendix can no more be felt than seen, and it is impossible to inform oneself of its exact condition. Holmes, the poet and physiologist, suggestively remarked that one cannot tell what wood a table is made of until he lifts up the cloth. And so it is with the disease in question: one cannot tell the exact state of the appendix until it has been exposed to view by operation.

I should think that no part of the body has caused so many surgical surprises as the appendix. In one case the symptoms of disease have been uncertain, or definite but slight; and when the surgeon exposes the appendix he finds it mortified. In another case he thinks that he can distinctly feel it in the iliac fossa; but in the operation not only is it absent from its proper situation, but, after half an hour's anxious search, he finds it in the depths of the pelvis or tucked up behind the liver.

In other cases, where the symptoms have been unmistakable and even acute, much to his surprise, the surgeon finds nothing worse than a little catarrhal inflammation in the vermiform process. But the commonest surprise of all is the discovery of a perforated appendix when the symptoms have been slight and the operation has, by good fortune, been undertaken early. I think that the time will come, and that shortly, when these perilous associations of appendicitis will be obviated;

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this, however, can only be by a general agreement that no case ought to be allowed to drift, but that operation should be resorted to as soon as the presence of disease is recognized.

THE "QUIET STAGE."

It is generally considered that operations done on about the fifth or sixth day of the disease have a particularly high mortality. The explanation is simple: precious time has been lost. It does not mean that the surgeon is not to operate on the fifth or sixth, or any other day: it means that the disease has gone on developing from, perhaps, an apparently simple beginning, that by this time, as likely as not, an abscess has formed, and that the surgeon's chance is by so much the worse. Further, it does not mean that if the operation is postponed to the seventh, or eighth, or to any other day, the chances of recovery would be better. With, or without operation the patient may die; but the surgeon must do his best without regard to omens or statistics. It is out of the question now that he could advise waiting for the oncoming of the "quiet stage" before operating. The quiet stage in such a case may be nothing less than the silence of death itself. There would be no "fifth" or "sixth" or any other ominous day in the course of an appendicitis if operation had been promptly resorted to. And as for the so-called "quiet stage," I think it a misfortune that the specious term has ever been applied to appendicitis. But it has a great attraction; and even in medical conversation it is often spoken of as if there were actually a period in the course of the disease in which all urgent symptoms, local and general, passed away, and Nature seemed to be pausing in order that the surgeon might have a free and unhampered chance of putting a happy end to the trouble. Of course, in many cases the urgent symptoms do so clear up, but who is to know whether in any individual case they are going to subside or to rush forward with hurricane speed? No one can possibly tell; and it is because of this uncertainty that recourse to immediate operation offers the greater safety. One hears people talking of the oncoming of the quiet stage in appendicitis as if it were as clearly marked in the pathological time-table as is the crisis in pneumonia, or the fall of temperature in a remittent fever. It may prove, however, but a Will-o'-the-wisp.

WALLING OFF OF THE APPENDIX.

Associated with the theory of a "quiet stage" in the general run of cases of appendicitis is that of a "walling off" of the area of disease. In some cases there is, no doubt, a walling off, and it is pleasant when operating on them to find the appendix shut off and lying handy in a small abscess. But in hurricane cases there can be no attempt at a walling off. Nature seems to be taken by surprise and robbed of all chance of building up protective earthworks. One could scarcely expect a gangrenous appendix to glue itself to neighbouring coils of bowel, or to cause the production of helpful plastic lymph. In these furious cases there is usually no attempt at "walling off," so the germ-laden, sero-purulent exudation may be found tracking across to the opposite side, or draining down into the pelvis. There is evidently no more chance for a "walling off" than for the on-coming of the "quiet stage."

A FOOL'S PARADISE.

There is apt to be a Fool's Paradise stage in appendicitis, and it may come early or late in the course of the disease. Its occurrence is somewhat in this manner: A patient has been complaining of pains in the abdomen for a day or two, with some slight tenderness in the right iliac fossa; the pulse has been, perhaps, at about 100 to 120, and the temperature at 101° F. After a baddish night the man wakes up and finds that the pains have gone, and that he is better in every way. The pulse has dropped, may be, to 90; the temperature is a degree lower, and the man's appearance is much better. His nearest relation, who has been in to see him, is delighted with his improvement. The nurse also recognizes a great change, and the family doctor admits that since his visit of the previous night a marked alteration has taken place.

But in spite of all this, the lower part of the right rectus remains motionless or rigid; there is still a resistance in the other muscles over the iliac fossa, and some tenderness on pressure over the caecal region still remains. The patient is not actually better; he is worse. The state of his pulse and of his temperature is of no real clinical value—it is, on the other hand, actually misleading, and the sensations and the aspect of the patient are certainly not to be taken as indications of improvement in the presence of persistent rigidity of the lower part of the abdominal wall. What exactly has happened to produce this sudden change one cannot say. As likely as not, the swollen appendix has given way to internal pressure, and some thick muco-purulent fluid, or even a solid concretion, has escaped. Or it may be that an abscess in, or close to, the appendix has burst its bonds. At any rate, some deeply seated tension has been relieved and quiet has been restored—at least for a time.

This remission of symptoms is not seen in the course of every case of appendicitis, but it is fairly common, and its occurrence is apt to be fraught with great danger, especially if it so happens that the consultation with the physician has been arranged for that particular morning.

Of all those who are in connexion with the case, the surgeon is the least likely to be deceived. The continued rigidity of the abdominal muscles (which probably is still marked) is evidence to him that the storm-warning must not be lowered, although some heavy clouds have been rolled away and the sky looks brighter. He is still anxious to open the abdomen and so to *assure* himself; but in the altered circumstances he may be tempted to give way. Indeed, unless he is unusually firm—obstinate, his friends call it—he *will* give way. And perhaps by night the urgent symptoms have returned, the patient breaks out in a sweat, or has a rigor, and after a loss of twenty-four precious hours, leave to perform the necessary operation is given. The surgeon then finds a diffuse abscess, and possibly the patient is so bad that he dare not venture to search for the ruptured appendix. How greatly does he then regret that he did not open the abdomen as soon as the diagnosis was definitely made!

If only the figures from Nature's clinical case-book could be shown upon the blackboard of how many times, say in the last year, the abdomen was opened too early in appendicitis, and how many times too late, there would be no need for me to be appealing for more resolution and promptness in the treatment of this disease.

DANGER OF WAITING.

In the correspondence to which I have referred, Dr. F. J. Dixon urged that it was better "to take a little increased risk by waiting than subject a great many patients to unnecessary operations." But unfortunately the man who is waiting cannot measure or control the risk to which he is subjecting his patient. A delay of a few hours in one case may prove fatal; in another case it may do no harm; but as one cannot possibly tell in which it may be harmful, delay is best avoided altogether. Dr. Dixon rightly hopes that the surgeon would not be in such haste to operate as to open the abdomen for a passing attack of colic. Such haste as that would, indeed, be blameworthy; but if in any case at a consultation held a few hours later, it could not be positively settled whether the appendix was in trouble or not, the greatest safety would be found in looking at it. In a case of doubt, localization of the symptoms of "colic" in the right iliac fossa should render one anxious to exclude appendicitis, and this can be done only by making a small incision.

Mr. Paterson wrote that fifteen hundred deaths take place in England and Wales every year from appendicitis —"unnecessary deaths," I have called them. If all of these cases could be diagnosed and operated on straightway, how many could be saved? Why not every one? And the only reason that can be urged against their all having the benefit of an immediate operation is a vague fear that, if the practitioner were to make it part of his working creed that such treatment was advisable, he and his surgical associates might be regarded as needlessly enterprising, or "too fond of the knife"—to use a common expression. But if, as would happen as the result of their treatment, pretty nearly every one of their cases got well, it would not, after all, greatly matter.

When every practitioner holds these views the Golden Age in Surgery will have begun to dawn. And then the operator who has his fair share of cases of appendicitis

throughout the year will be able to say at the end of it "I have not lost a single case, because I have got them all early"! And this will be by the family doctor, the physician and the surgeon all agreeing that as soon as ever the diagnosis is made that an appendix is inflamed it should be removed; and that if there is doubt about the diagnosis it must be settled by the making of an incision, the making of the incision being part of the scheme for arriving at a sure diagnosis—just as one employs the *x* rays in an obscure case of hip injury.

APPENDICITIS AND THE PUBLIC.

But before this improvement can take place public opinion will also have to be educated. At present the greeting given by the friends to the surgeon who has been called in is apt to be, "We *do* hope that you will not think it necesary to operate." The mention of the word "appendicitis" has already caused alarm in the household, and the people have heard of so many deaths from that complaint after operation that they are inclined to attribute the fatal result to the operation rather than to the disease. Our Profession recognizes the fact that it is not well for the Public to be kept ignorant on medical matters, and from the platform and by the newspapers much useful medical knowledge is being constantly and widely imparted. Thus, on such questions as the Listerian method, hygiene, food and drink, tuberculosis, and infection the public have learnt much, and the time has now come that they should be told something about the danger of delay in appendicitis; that in the case of acute or obscure pain in the abdomen they ought at once send for their doctor, and if he advises that a surgeon be called in, no opposition should be urged to the proposal of an operation. They should be made to understand that it is not the operation but the delay in performing it to which a fatal result should be generally attributed.

Not long since I was called to operate on a boy from a large school with whose obscure abdominal pains the Matron had deemed herself competent to deal! Persons with abdominal pains are not cases suitable for treatment by Matrons or First Aiders; for every case of the kind the doctor should be *at once* called in. If after making his examination he is able to say that the complaint is not serious, so much the better. If, on the other hand, he finds the appendix at fault, the case at once becomes serious; and neither he nor anyone else can say how serious it may prove if it is allowed to drift.

TWO SERIES OF CASES.

In imagination let us take a hundred cases of appendicitis, from the beginning of their manifest infection, and form a rough estimate of the course which they will run, basing our guess on what we have seen in other instances. It might be fair to suggest that 30 of them would probably get well with what is called "medical treatment." This might be too large a proportion, but it may pass. Of the 70 remaining cases perhaps ten might have subsequent slight local troubles, from which they also may get quite well without active help, whilst an equal number might have recurring attacks which rendered them chronic dyspeptics, or even, from time to time, suddenly and most inconveniently took them from their occupation and threatened them with disaster. At last, finding the appendix a constant source of worry and anxiety, they had it removed when the trouble was in the "quiet stage." Accepting this estimate, there are still 50 cases left which will not fall into any one of those three groups. Five or six of them, perhaps, will go on with alarming rapidity, and when a day or two later the abdomen is opened—tardily opened, I will say—the appendix will be found gangrenous or perforated, with, may be, an unsuspected abscess in its neighbourhood. It matters not who the surgeon is who operates, some of those patients will certainly die, the proportion being settled, apparently, by blind chance. Of the remaining serious cases which do not run a hurricane course, some will be associated, perhaps, with subphrenic abscess, some with pelvic abscess, some with diffuse suppuration of the abdomen, with intestinal obstruction, or with septic intoxication. The list of the later complications of neglected appendicitis is long and appalling, and they claim a large number of victims. They ought all to have been avoided. It is impossible even to make a guess of the actual figure of the fatal cases, so, being unknown, let it be called *x* —*an x percentage* out of the fifty is lost.

Now, by way of contrast, let another hundred cases of appendicitis in the earliest stage be taken, and let every one of them be operated on as soon as the diagnosis is made. By the light of our former series, it is at once seen that 40 cases have been submitted to operation which would have recovered without surgical aid. I admit it. But has any harm been done by operating? Have any people been wronged by the operation or any surgical principles violated? At any rate, those people, 40 of them (for they have all recovered), will not run the risk of having appendicitis again—and that is something to be thankful for. Then, by the early operation, we have put right those cases of slight relapsing forms of the disease; these ten people have been saved the misery of an annoying chronic dyspepsia—which is a common, and often unrecognized, complication of a lurking appendicitis. We have made those twenty persons absolutely safe and happy. There yet remain 50 individuals who, in the other series, became the subject of local and diffuse abscess in the abdomen and pelvis, or were attacked by some form of blood poisoning. We have got them also safe, every one. And we have not lost a single case out of the hundred—because the appendix was removed as soon as it was found to be diseased. What a contrast between the two series! Yet in the beginning the patients were all alike—all apparently simple cases of appendicitis. There can, I think, be no difference of opinion on the subject—*x per cent.* of the first lot of cases was lost because of want of surgical enterprise, whilst not a single death occurred in the second series. So that early operation in appendicitis gives *x per cent.* the better result.

Then, why is it that early operation in appendicitis is not the rule? The reply may be that it is all very well to talk about *series of cases*, but when the family doctor is in attendance on any particular case, and is surrounded by anxious parents and apprehensive and criticizing friends, he has to disregard the average and think only of the *individual*. That, in other words, circumstances alter cases. Still, if circumstances do alter cases, they ought not to disturb the principles on which surgical cases should be treated. But hitherto there has been no principle laid down by general professional consent and teaching in England as to what should be the rule and guide in the treatment of appendicitis. But it must come ere long. And when it comes it will be, I think, in some such form as this, "As soon as it appears fairly certain that the appendix is inflamed it should be removed by operation." The rule of treatment should be made as definite and rigid as is that for the treatment of a strangulated hernia or a cancer of the breast.

STEALTHY APPENDICITIS.

There is a small group of cases of appendicitis of extreme interest and importance to which special attention should be drawn in a paper of this sort. Two or three of them, I dare say, might be found in every hundred cases, and they come like a thief in the night. Let me give an imaginary clinical sketch of one of them:—An athletic young man who has never known a day's serious illness, has been for a long bicycle ride, and, returning home, has eaten a hearty supper, and gone to bed dead tired. In the night he wakes up feeling very ill; he vomits, and then, finding himself much better, goes back to bed and falls asleep. But in the morning he is not inclined to get up, and as he complains of pain, his mother calls in the doctor, and, meeting him in the hall, says that the boy had eaten something for supper which made him sick; that he is better now, but she hopes the doctor will not let him go to the office that day. He looks fairly well, and he is lying flat on his back with his knees not drawn up; his pulse-rate is scarcely quickened, and his temperature is but slightly above normal. May be, his face is a little flushed and anxious; he has some slight tenderness in the right iliac fossa but there is no swelling to be made out. Perhaps there is some rigidity of the neighbouring muscles. He is strictly dieted, and a fomentation is applied all over the abdomen. In the evening he is not so well, but he has not vomited again, and he says that the fomentations have eased his pain. The doctor is by no means happy about him, but he says some cheering words, and promises to come round early in the morning

to see him. The patient passes a very restless night, and when the doctor examines him he finds that there is a marked contraction of the lower part of the right rectus and more tenderness in the fossa. An operation is talked about, but, for some reason or another, it is not done till the evening. A gangrenous and perforated appendix is then removed, and a large quantity of foul sero-purulent fluid wells up; a drainage tube is inserted, and fomentations are reapplied.

What is the prognosis? Is it not quite likely that the lad will die? We all meet with these cases, quiet and deceiving in their origin, and formidably quick in their course. The surgeon wishes that he could have been called in the day before; but if he had been called in would he have been allowed to operate? If his rule had been to urge operation in every case as soon as he suspected the existence of appendicitis, and he had been allowed to follow it, he would certainly have increased the chances of recovery of this man. For aught that one knows, every early case of appendicitis may be going to turn out like this—no one can tell. Probably it is always a question of the virulence of the germs or of the vulnerability of the tissues—or both—which determines the pace at which the local changes will work out. And as one cannot possibly have any knowledge on either point, it will be far safer that the surgeon should act as if he suspected in each case that he had virulent germs and vulnerable tissues to deal with. He should banish all hesitation.

"When to Operate in Appendicitis."

Supposing that there is a surgeon here who does not hold these views in connexion with the treatment of appendicitis, and some one asks him, as a matter of information, what are his guides as to when an operation should be advised, he may not find it easy to reply. The pulse and temperature may be normal, and the patient's aspect may be good although the disease is far advanced, and there may be no fullness in the iliac fossa and but slight resistance, yet the case is in urgent need of help. It is unsurgical to wait for some beacon-flash telling him when in any particular case he should advise operation, and I think that he would find it difficult to satisfy his questioner. On the other hand, if he held the opinion which has been forced upon most of us, he would simply reply, "I would urge operation as soon as ever I suspected that the appendix was inflamed." That is a clear answer; it cannot be misunderstood.

And amongst the many great advantages of the early operation is this, that no risk is run of the need of any of those secondary procedures which are apt to be called for if the case is allowed to drift on to suppuration. After the early operation the wound is closed once and for all; no drainage tube is used, and there is no fear of a future ventral hernia or of a bulging at the scar, of inflammatory adhesions or intestinal obstruction.

"Look and See."

It is constantly argued that if the appendix is removed as soon as it is believed to be inflamed, some cases will be submitted to operation in which, after all, no disease of the appendix is discoverable, and that many others will be so dealt with which might probably have got well without any active surgical help. This I fully admit; but it is the only argument which can be raised against the early operation. However, the admission by no means weakens my appeal. We sometimes hear the same sort of criticism made in the course of our practice by persons who have no claim to express any opinion of value in the matter—"This boy," says a proud mother, "had an attack of stomach-ache last month, and the doctor wanted to have him operated on. But his father wouldn't allow it, and the boy has been perfectly well ever since!" That valiant decision exalted the man in his wife's opinion, and at the doctor's expense: but my sympathy is all with the doctor. And it is more than likely that if the boy got another attack of the kind, and the father again stayed the surgeon's hand, the result would be disastrous, and the father might regret that he had ever stood in the way of operation.—The conclusion of an attack of appendicitis is not infrequently associated with regret.

Let me briefly give a clinical sketch of the imaginary case just mentioned:—The boy had been sitting on damp grass watching a cricket match, and next day he was seized with acute catarrhal appendicitis. The doctor found him with a pulse of about 120; his respirations were quick: he had vomited, and he complained of pain and tenderness in the right iliac fossa. The doctor, perhaps, had recently had a case with like symptoms in which, when an operation was tardily resorted to, a mortified appendix was found in a stinking abscess, and the patient had sunk. He dreaded a repetition of the scene, and he was anxious to be in time on this occasion. And he was right!

It is because of the two-fold uncertainty which must always be associated with appendicitis—uncertainty as to the actual state of the disease, and uncertainty as to the course which it will take—that the surgeon should be anxious to *look and see*. But, as it is, there is no general agreement as to what should be the exact procedure. One medical man may urge treatment by rest and opium, because he has seen several patients get satisfactorily over an attack when thus dealt with. Another may insist that treatment should be by castor-oil or Epsom salts, because he has known it answer well; and a third will swear by starvation, fomentation, and enema. And no one can affirm that in any case the adoption of one of these methods may not meet with success. But after dealing with a few more cases on such lines he would scarcely fail to be pulled up short, and to find his faith rudely shaken.

A whist-player with five trumps in his hand may win the trick although he leads from his short suit, but a fuller acquaintance with the game will prove to him that it is not safe play. In the course of time the experience of the many has been crystallized out into *Rules*, which intelligent players find it to their advantage to observe. And so is it in Surgery: out of the experience of the many, definite principles of practice are constantly being laid down to become in due course accepted as Rules. And, judging from what one sees and hears, the Rule is gradually being established in this country that a case of appendicitis should be operated on as soon as ever the diagnosis is made—within the first twelve hours, if possible—that the patient will then not only get well, *almost for certain*, but will get well very quickly.

Exploratory Incision.

But would it really be a terrible calamity if an incision were made over a suspected appendix in a case in which it was not actually affected? For my own part, I give the question an unhesitating "No." A cleanly-made opening into the abdomen can do no harm, and I look forward to the time when it will be no unusual thing to hear that such and such a surgeon has been looking into an abdomen, or, to be more precise, has been passing his finger into an abdomen for this purpose, and that, after all, there was nothing wrong with the appendix. The dread of advising an incision in a case where the appendix might be found little or not at all affected, is greatly exaggerated. The surgeon's reputation as a diagnostician is of far less importance than the safety of the patient, and if his fruitless act be called a *mistake*, at any rate, it is a mistake on the right side. The surgeon who is haunted by the fear of making a mistake has made an unfortunate choice of his Profession. I can remember the time when a surgeon was afraid to cut into a mass of inflamed tissues lest, by chance, there should be no pus found. He preferred to "wait for fluctuation" (the expression even yet sounds familiar). But now that one understands the danger of acute inflammation and of tension, one unhesitatingly makes a free incision into an area of acute cellulitis so as to end painful disease and diminish the risk of sloughing, and of other effects yet more serious. But the same surgeon is still apt to be content to dally with, and hover helplessly over, an inflamed appendix because he is not "quite sure." In politics the motto "wait and see" may suffice: for the surgeon in a case of possible appendicitis it should be "*Look and See*," and Medicine and Surgery will not be in a satisfactory state as regards the treatment of appendicitis until the prompt making of a small iliac incision becomes part of the routine treatment. An inch incision through the abdominal muscles will suffice if it is made quite early, but an incision of 6 in. or more may prove ineffectual if it is delayed.

I have long since made up my mind what I shall do if I, in my turn, become the subject of appendicitis—I shall forthwith call in a surgical friend, and if he says "Yes, I think that the appendix is at fault," I shall ask him if he would mind my getting another surgeon (not a physician) to come and see me with him for the purpose of confirmation; and on the diagnosis being confirmed, I shall beg him *at once* to operate. And if these principles were adopted in all cases of appendicitis, would not the mortality of the disease be lowered by more than *90 per cent.*? I think so.

I have not hurriedly formed the opinion that the greatest safety in appendicitis is in the early operation. And certainly I did not start with that opinion: I have been steadily driven to it. I have seen a fair share of cases of appendicitis, with some of which I have been associated from the beginning of the attack; to more I have been called in when the disease had already made considerable headway, and for others my help has been asked only towards the close of the chapter. And my deliberate opinion is that if it were generally recognized that safety lay in prompt operation, the present high death-rate in the disease, as I have already said, would be greatly lowered.

At various times in our professional life we have to study our bearings, take soundings, and re-shape our course. How greatly thus has our treatment of cancer of the breast, for instance, improved in recent years, for even if there is a slight margin of doubt in that diagnosis we now urge immediate and complete operation. There is no waiting for the appearance of signs which shall render the diagnosis so clear that there is no chance of mistaking a chronic inflammatory thickening for a malignant infiltration; the patient and not the tumour is now given the benefit of the doubt, and the improvement in our results has, in consequence, been most remarkable. In diphtheria, too, antitoxin is injected without a moment's delay; and in the case of suspected renal calculus the kidney is explored for a likely stone even if the *x* rays fail to reveal its presence.

Misleading Conditions.

Whether all the views advocated in this paper prove acceptable or not, there is, at any rate, one point which ought to receive a more general recognition: it is the reference to the fact that there may be a comparative absence of clinical signs in the presence of advanced and perilous disease in the appendix. It does not at present seem to be universally realized that the pulse and temperature of a person may be normal in spite of the appendix being gangrenous or perforated; that in some of these stealthy and rapid cases there is absolutely no fullness in the fossa; and that if the chief pathological change in the appendix is gangrene, there need be very little local tenderness—for there is no sensation in dead tissue; that as there is no sensation in a mortified appendix, there need be no reflex rigidity of the abdominal muscles covering the fossa; that there being no excitement of pulse or temperature, and little or no local pain or tenderness, the patient may make light of his trouble and that his aspect may be deceivingly cheerful. Thus, in the most dangerous class of cases of appendicitis there may be but little either to cause anxiety or to attract serious attention. Every operating surgeon will bear one out in this, and will agree that, for the happiness of all concerned, the family doctor should never sit pondering over his case of suspected appendicitis, but should *at once* call in surgical aid. If the surgeon then says that because he is not sure he would rather wait a little, at any rate, whatever happens, the doctor will not afterwards have anything to reproach himself with. But I do not think that there are many surgeons who would counsel delay; we have all seen enough of the danger of waiting.

In no respect, I think, has improvement in surgical treatment in the last quarter of a century been more marked than in that of strangulated hernia. Taxis and the hot bath happily have become things of the past. The general practitioner sends his patient into the hospital without hesitation or delay, or calls in the surgeon for immediate operation: and instead of there being now a high death-rate from strangulated hernia, statistics would show a most remarkable improvement. And what, in my opinion, is wanted at the present time is a similar waking up of the profession with regard to the treatment of appendicitis.

We have heard of the sailor who, when his ship was in action, saw an unexploded shell, with a time fuse attached, land upon the deck. He did not wait to see the development of events, but, taking the shell up in his arms, dropped it over the ship's side out of harm's way. An inflamed appendix is a shell with a lighted time fuse, and though in any case it may happily fail to explode, it is far safer to lift it out at once and drop it overboard.

In the course of this paper scarcely a word has been said as regards alternative methods of treatment, for, in my opinion, *there is no place for the discussion of general measures until after the inflamed appendix is out.*

Whilst waiting for leave to operate, nothing whatever should be given by the mouth, and no fomentation or water-dressing should be used, because wetting the skin spoils the antiseptic effect of the tincture of iodine, which should at once be freely and widely painted over the region in preparation for operation. But there will be plenty of scope for treatment after the appendix has been removed, and especially so in those cases in which the blood or the peritoneum has already been poisoned by absorption.

The discussion at the present time should be directed towards the solution of the important question as to whether immediate operation or temporizing ought to be the rule in the treatment of appendicitis. If the answer is in favour of immediate operation, such subjects as that of the choice of anaesthetic, the routine washing out of the stomach before the patient leaves the table, the administration of opium, or of purgatives, may well be referred to; but the main question should first be settled. And in a meeting such as this the answer will be likely to prove useful towards the drawing up of a Rule for the guidance of the practitioner in the treatment of every case of appendicitis.

THE FUNCTION OF THE APPENDIX AND THE ORIGIN OF APPENDICITIS.

BY

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Shortly after his death, which took place so lately, a paper by Mr. C. B. Keetley was published in the *Annals of Surgery* about the function and value of the appendix. Both he and Sir William Macewen regard the appendix as an actively useful and valuable organ not to be sacrificed lightly. Their opinions are based largely upon clinical, and therefore complicated, observations. Other observers, such as Mr. W. J. Mayo, incline to the other extreme—that the value and function of the appendix is so small that it is absolutely inconsiderable when compared to the dangers which it may cause. When the enormous number of people are considered who have had their appendix removed and are in perfect health, one cannot but sympathize with the latter view put forward. Yet as a matter of scientific interest the appendix has a function; and, when removed, that function is undertaken by neighbouring tissue, and the patient is relieved of a passive tube containing actively poisonous material. This view I advocated in the Erasmus Wilson Lectures delivered before the Royal College of Surgeons in 1904,[1] and, in view of Mr. Keetley's recent death, shall content myself with restating them. This is done in four sections: The natural history of the ileo-caecal region, the physiology of the appendix, the development of the appendix, and the pathology of chronic typhlitis and appendicitis.

The Natural History of the Ileo-caecal Region.

Food in the mouth is reduced by the action of the teeth to a more or less pulpy condition, in which state it enters the stomach, where it is further broken into fragments by the action of the hydrochloric acid, pepsin, and churning muscular movements. The casein of our primitive natural food—milk—is precipitated and also fragmentated. The

pylorus, the smallest portion of the alimentary canal, allows, or should allow, no large pieces to pass into the duodenum. The work of the stomach and mouth may be regarded as chiefly, if not entirely, preparatory to chemical digestion and absorption and to partake of the physical nature of fragmentating the food. The more perfect the work of the stomach the more completely will the food be reduced to a molecular condition, and consequently the more perfectly will it be adapted for the chemical action of the bile and pancreatic secretions. The next twenty odd feet of the small intestine are given over to these chemical changes and the absorption of nutriment. The products of digestion having reached the ileo-caecal valve, it is the duty of that sphincter only to allow water, soluble material, and very small pieces of indigestible débris to enter the caecum. There are similarities in the physiologies—that is, homologies—between the pylorus and the ileo-caecal valve. The former is the portal between fragmentation on one hand, and chemical digestion on the other; the latter stands between chemical digestion and specialized absorption on the one hand, and possibly excretion and the absorption of water on the other. The stomach prepares food for the small intestine, the caecum for the large.

Fluid or semi-fluid material is passed from the small intestine through the ileo-caecal valve into the caecum. The latter is not adapted for the carriage of fluid by peristalsis; it is too large and thin-walled to contract efficiently unless it is tightly distended like the bulb of a Higginson's syringe. In addition, in man gravity works against it. As a result, the faeces must remain in the caecum until the absorption of water from them and the addition of mucus have rendered them of the proper consistency for their transit along the large intestine. Hence it is easy to understand why the caecum is so often the most capacious part of the large bowel, and why at operations, particularly for intestinal obstruction, surgeons so frequently find it distended out of all proportion to the rest of the alimentary canal, the bowels being full of fluid.

Hence, just as there is a natural pause for food in the stomach, so is there another for the products of digestion in the caecum; and in both the contents are prepared for their course in the succeeding part of the alimentary tract. To turn to the pathological significance of this halt, pause, or rest, it will be seen at once that the caecum is the breeding ground for bacteria *par excellence* of all parts of our intestine. The enumerations of the colonies from different parts of the alimentary tract bear this out, and have proved that colonies of bacteria are more frequent by hundreds and thousands here than in any part of the intestinal tract, even after a period of starvation. And it is only to be expected that this difference will show manifold increase when food is taken. It is now very easy to understand why Nature has established so large a storehouse of lymphoid tissue in the ileo-caecal region—to furnish leucocytes and protect the body from the bacteria, to which region the appendix is an intestinal "tonsil," an index of the fermentative processes which are going on within the caecum, a culture tube for the bacteria therein contained. Hence the very great frequency of its inflammation—appendicitis.

It will now be seen that there is strife between the micro-organisms and lymphoid tissue in the caecum of every living being. Hence the gradual disappearance of the lymphoid tissue as age advances. If the strife becomes a little more severe than it is ordinarily in health some inflammation about the ileo-caecal region will result, such as after a dietetic indiscretion. In the very great majority of cases this inflammation in the ileo-cacal region shows itself as appendicitis. In consequence, appendicitis may be regarded as a result of an exaggeration of the fermentative processes natural to the ileo-caecal regions of all.

The Physiology of the Appendix.

It has long been taught that this organ was functionless, and that most probably in this lay its apparent incapability to resist the attacks of disease. That it represents the terminal portion of the caecum, which has become differentiated in development, is undeniable. But that it is functionless is undoubtedly untrue. Like the rest of the intestinal mucous membrane, that of the appendix has numerous glands, whose secretion has apparently an insignificant digestive action on all foods. As little, if any, contents of the caecum ever enter the appendix, any digestive action it has must be of the smallest, whilst its absorption of products of digestion cannot be greater.

To sum up this phase of intestinal physiology: In the small intestine the products of digestion are fluid, and are being continuously passed onwards by peristalsis; the caecum is the first great "resting place" for these products since they have left the stomach; the large intestine, as its name implies, is of greater calibre than the small, and is more suited for the carriage by peristalsis of solid than of liquid faeces; the caecum being rendered less mobile owing to its peritoneal attachments and, in man, having to work semifluid material against gravity, the products of digestion have to remain in it until their consistence has become such as allows of their easy passage along the large intestine; the change in consistence is made by the deposition of mucus from the glands of the large intestine and the absorption of water. In consequence, the caecum of the child loses its tapering form, and becomes larger by the formation of pouches between the taeniae muscularis. During this pause further quantities of digested material will be deposited in the caecum and dilate that structure, possibly delaying the dispatch of the first "faecal" contribution. Hand in hand with these processes will go the fermentative changes of myriads of micro-organisms, to whom the temporary stagnation offers opportunity of multiplication. Hence the far greater quantity of bacteria in the large than in the small intestine. The temporary delay in the passage of the intestinal contents, the absence of a secretion like that of the stomach, the presence of large quantities of active micro-organisms and their products, point to the necessity for the development of a protective armament on the part of the host to counteract them. Hence the large development of lymphoid tissue in the terminal and most dependent part of the caecum, that is, the appendix, and its specialization, not degeneration. The need of the presence of this "intestinal tonsil" is apparent in the caecal region. The comparative absence of lymphoid tissue in the rest of the large intestine is explicable, as it is in the caecum that the faeces should have been brought up to the proper consistence to allow of their passage along the colon, and in consequence there should be no more considerable periods of "rest"; and as the faeces become dryer and harder, there will be less fermentative action.

Hence it may be said that:

(*a*) Lymphoid tissue is the characteristic feature of the caecal apex. The vermiform appendix of man is represented in the vertebrate kingdom by a mass of lymphoid tissue, situated most frequently at the caecal apex.

(*b*) As the vertebrate scale is ascended, this lymphoid tissue tends to be collected together into a specially differentiated portion of the intestinal canal, the vermiform appendix.

(*c*) The vermiform appendix of man is not, therefore, solely a vestigial structure, though it undoubtedly represents the terminal part of the caecum. On the contrary, it is a specialized part of the alimentary canal, Nature having made use of a disappearing structure and endowed it with a secondary function by giving it lymphoid tissue to protect the body against the micro-organisms in the ileo-caecal region.

Development and Life-History of the Appendix.

The development of this organ illustrates the previous contentions, and can be studied both in the individual—ontogeny—and in the animal series—phylogeny. That of the human fetus will be given first.

Up to the third month of intrauterine life the diverticulum of the primitive intestine, which subsequently becomes the caecum, is of uniform calibre throughout. At this period its growth becomes unequal, the terminal portion failing to increase in size at the same rate as the proximal. The inequality thus established becomes more and more marked as time goes on. At birth the terminal part of the caecum, or the appendix as it is called, forms a tapering prolongation of the caecal diverticulum.[3] It is not until later that a definite line of demarcation is to be seen between the two structures. The fetal type of caecum is, therefore, an inverted cone whose apex imperceptibly shades off into a prolongation of the

appendix.[3] It will now be seen that the appendix represents the terminal portion of the original caecum.

Turning to the animal series for suggestions to aid in the explanation of this phenomenon, it is found that a distinct appendix is only seen in man, anthropoid apes, lemurs, and the opossum. On the other hand, it is common to find a lymphoid structure at the distal portion of the caecum, which undoubtedly represents the appendix.[4] In the latter series of examples the caecum and its lymphoid appendage conform to the human fetal type. It is quite a later phase, both in ontogeny and phylogeny, that the caecum loses its conical form by the development of pouches between its three thin muscular bands. And it is by that the appendix becomes distinctly separated.

As age advances the appendix undergoes changes both in position and structure. In the fetus it is situated along with the caecum under the liver, and later it descends into the iliac fossa. Sometimes it remains in its fetal position, or it may be arrested at any part of its descent. An examination of the appendices for different decades shows that they are both relatively and absolutely longest and thickest between the ages of 10 and 30. The walls during this same period are packed with lymphoid nodules. After the latter age the appendix begins to undergo a slow involution both in length and thickness. The lymphoid nodules disappear also, though more slowly and uncertainly.

Robert Morris[5] has directed attention to the association of pain, intestinal and general symptoms with this involution. The change is certainly of a chronic inflammatory character, such as would be expected to occur in nearly every one who has an appendix, and is the result of the continued irritative action of bacteria throughout years. Still more recently Sir Berkeley Moynihan and Mr. Paterson have redirected attention to the occurrence of appendix dyspepsia, its more modern name.

The situation of the appendix in the pelvis is an acquired feature, associated with intestinal dyspepsia, constipation, pregnancy, visceroptosis, etc.

Pathology of Chronic Typhlitis and Appendicitis.

It is a matter of more or less common knowledge in the profession that, as years pass by, changes are found in the appendices of people who have never had a clinically recognizable attack of appendicitis. How much these changes are physiological it is impossible to decide, and it is not very important, because, whatever they are, they will interfere with the normal performance of the work of the appendix, and so lead to evil results. One of the best known of the changes is the disappearance of the lymphoid follicles that are so plentiful in early life. Is this disappearance pathological or physiological. Yet if sections are cut of appendices removed from people over 60, or even older, these follicles sometimes can be found in abundance. The persistence in these cases may be due to individual variations in the rate of ageing, or perhaps more probably they indicate that the disappearance is of more pathological than physiological import.

In considering the physiology of the appendix, it has been shown that the caecum is the first great place of rest, pause, or stasis for the products of digestion after they have left the stomach, and, as a result, the appendix, serving as an index to the chemical and bacteriological processes which occur there, is well supplied with lymphoid tissue. One well-known property of lymphoid tissue is that by producing leucocytes it is actively protective to its possessor against foreign invaders. Situated in a blind tube in whose lumen are represented types of the organisms inhabiting the large bowel and their fermentations, the lymphoid follicles must have a great deal of work to do, more even than the tonsils, to which the appendix has been likened. It is well-known that the tonsils undergo fibrosis or chronic inflammation without the occurrence of an acute attack. In a like manner do similar changes occur in the appendix, but unfortunately there is a very marked difference. Fibrosis of the appendix interferes with the efficiency of its peristaltic action and the tube becomes incapable of emptying itself. By these means a vicious circle is established; the more pabulum which remains the more will bacteria flourish, and the more likely is it that the chronic inflammation will progress, and the organ become still more incapable of performing its own evacuation. Such a condition may be aptly called appendicular constipation. The inspissation of the contents will lead to the formation of an appendicular calculus or faecal concretion, which may be likened to scybala elsewhere in the large intestine. It may be assumed that the presence of concretions indicates the existence of pathological change. And their association with chronic inflammation explains the fact that they are frequently found by the surgeon and the pathologist in cases which have never had a clinically recognized attack of appendicitis.

The results of chronic appendicitis may be at times far more extensive than this. The fibrosis, with its subsequent contraction, leads to further disappearance of the lymphoid follicles and impairment of the muscular action. The appendix consequently becomes an inert breeding ground for micro-organisms, and if they escape into the caecum the multiplication is continued there. The caecum will be affected sooner or later by the continued escape into it of toxic material elaborated in the appendix, and as it is necessary that the products of digestion remain there until they are of suitable consistencey to be passed on into the ascending colon, those toxic materials will become still further elaborated and give rise to chronic typhlitis. Again there is the vicious circle, as the inflammatory condition will impair the contractile power of the caecum, and so lead to further bacterial growth and further chronic inflammation. In this way a colitis may be established throughout the entire length of the large bowel.

Our life-history as regards the micro-organisms in our intestines is of interest. Before birth the meconium in our bowel is sterile. With the first taking of its food the baby is introduced to their action and begins a lifelong education from his alimentary tract. In this connexion it is of great importance to note that the frequency of appendicitis is greatest between the ages of 10 to 20, the decade of the first habitual excesses in human life. After 30 years of age the lymphoid follicles are disappearing and the patient is becoming immune; but, should appendicitis occur after 30, the suppurative complications, abscess and peritonitis, are more frequent than they are at earlier ages. Indeed, in the fifth and sixth decades of life appendicitis with obvious suppuration is more common than appendicitis without obvious suppuration.[6]

REFERENCES.

[1] *Clinical and Pathological Observations in Acute Abdominal Disease* (Constable and Co.), 1904. [2] Keith, *Human Development and Morphology.* [3] Battle and Corner, *Surgery of the Appendix*, Fig. 2, A, p. 28. [4] Berry, *Journ of Anat. and Phys.*, 1901. [5] Morris, *Amer. Journ. of Obstet. and Gynaec.*, 1901, p. 439. [6] *Surgery of the Appendix* (Constable and Co.). p. 33.

THE report presented to the annual meeting of the Women's Imperial Health Association, held at its office at 7, Hanover Square, stated that schools for mothers had been started in Lambeth, North Kensington, and Tottenham, and that a juvenile health crusade was enlisting children. The caravan tours, which had proved successful in the past, had been continued. During the year Sussex had been visited and certain places in Kent and Surrey. The London parks caravan worked during the summer at Battersea Park, Clapham Common, Wandsworth Common, and Tooting Common. During the year no fewer than 310 lectures had been delivered under the auspices of the association, many of them illustrated by lantern slides and cinematograph films.

IN response to the wish of the Dresden branch, a general meeting of the Deutsche Gesellschaft zur Bekämpfung des Kurpfuschertums (German Society for the Suppression of Quackery) decided on January 18th, 1913, to remove its headquarters to Dresden. Dr. Seifart, the first chairman, who has carried out his onerous duties for upwards of ten years, has repeatedly intimated his wish to resign, and during the last few months has pressed the Executive Committee to accept his resignation. The Executive paid a warm tribute to the untiring work of the chairman. It regretfully accepted his resignation. A new Executive Committee, consisting of Wirkl. Geh.-Rat Exzellenz Professor Dr. Fiedler, Geheimrat Professor Dr. Schmorl, Professor Beythien, Medizinalrat Thiersch, and others, has been elected. Dr. Neustätter (of Dresden-Hellerau) has been elected Provisional Chairman and Business Manager, to whom all communications, inquiries, etc., concerning the German Society for the Suppression of Quackery should be addressed.

A Lecture
ON
CARCINOMA OF THE COLON.

DELIVERED AT THE CANCER HOSPITAL,

BY

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THERE are certain clinical aspects in the study of carcinoma of the colon which I propose to bring before you.

In the first place, let me say that the stage of complete obstruction is still unfortunately the most common at which the surgeon meets it. A typical instance is the fellowing case:

A patient was admitted to the Royal Free Hospital with a distended abdomen, persistent vomiting, and inability to pass either faeces or flatus. The abdomen was opened in the mid-line. A hugely distended caecum presented, and on it was a patch of gangrene about half the size of one's palm. There was just sufficient time to pack around it with gauze before the caecum burst, flooding the wound with pints of liquid, offensive colon contents and running on to the floor. A Paul's tube was then fixed in the opening, and the patient made an uninterrupted recovery. Some weeks later the abdomen was reopened and a carcinoma of the sigmoid excised. At a third operation the caecal fistula was closed.

The most striking lesson to be derived from this case has always seemed to me that the gangrenous condition of the caecum and its early rupture, thus preventing any further abdominal exploration, was the means of saving his life. This brings me to the point. What should be done when a patient's abdomen is very distended and obstruction is complete? If a growth can be felt from the rectum or vagina, colostomy of the sigmoid may be performed. If not, the abdomen should be opened to the right of the mid-line, and if the caecum presents it should be opened without further exploration. If it does not, the first distended coil found should be used for the purpose of drainage.

You may say that without a proper exploration of the abdomen a strangulation under a band, or some other form of intestinal obstruction, may be overlooked. Even so the chance of the patient living is greater the less the intestines are handled, for consider their condition. They are filled with offensive liquid faeces, their walls are oedematous and brittle, the elasticity is diminished, the peritoneal covering cracks and splits even with gentle handling, allowing toxins and germs to invade the peritoneal cavity. Colostomy without an exploration for the cause of the obstruction, in very distended cases, brings about far better results than when a search is made.

The safest method of performing a temporary colostomy for drainage purposes is by using the curved clamp invented by Sir Thomas Smith (Fig. 1). A portion of the lumen

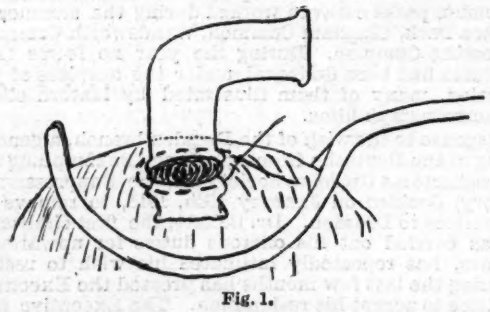

Fig. 1.

of the distended colon is emptied and then clamped. An incision is made and a purse-string suture inserted around it. A Paul's tube is now slipped in and the purse-string stitch tied around it. The clamp is then removed, and the gush of fetid faecal matter is carried well clear of the wound into a receiver by means of the rubber tube attached to Paul's apparatus.

We now come to the case of carcinoma of the colon in which obstruction has not become complete.

Here we have very typical symptoms, but which are often overlooked, either because the patient does not go to his doctor, or because the symptoms are improperly recounted, or because the symptoms are treated without any attempt at finding the cause.

Let us look at a typical specimen of the commonest type of growth, that of the sigmoid, and you will notice there is very little to be seen on the outside. The appearance is that of a string having been tied around the bowel. If we look at the interior we will see that the growth is of both an ulcerative and a cicatrizing nature.

Now any form of ulcer in the colon gives rise to frequency in the calls to empty the bowel. The excessive secretion of mucus and the call to get rid of it makes the patient think he has diarrhoea.

As the colon becomes narrowed by the shrinking of the growth, colicky pain is induced by taking food or drinking hot fluids, both of which stimulate peristalsis. This the patient attributes to "wind."

The most typical symptoms, then, of the early stage are the frequent passage of loose motions and mucus with blood occasionally, and colicky pain on taking hot drinks or food.

If these symptoms persist in spite of diet, bismuth, and rest in bed, an examination with the sigmoidoscope is called for. Failing definite evidence with that, the only means of settling the diagnosis is by exploration of the abdomen. I must here admit that in four cases of those I have explored with these symptoms the disease has been chronic appendicitis and not growth; but as their troubles have disappeared with the removal of the diseased appendix, the mistake was a good one.

A still later stage, and one during which no mistake should be made, is that in which there is gradually increasing constipation and *visible peristalsis*.

The picture of visible peristalsis once seen is never to be forgotten. If the abdomen is watched during one of the attacks of pain, coils of hypertrophied intestine will be seen standing out and raising the abdominal wall in waves. Visible peristalsis always means obstruction, and there should be no hesitation in opening the abdomen when this sign is present.

I was once asked to go to the country to fix a movable kidney which was causing pain in a patient whom I had never seen but who had been recommended to have the operation by a surgeon who devotes a good deal of attention to kidneys. While examining the lump which she had in the right kidney region she had one of her attacks of pain, and I was able to observe very well-marked peristalsis. I received permission to open the abdomen instead of fixing the kidney, and the condition I found was a chronic intussusception lying in the ascending colon and forming a lump which had been mistaken for the kidney. I was able to reduce the intussusception, which originated from a tumour of the ileum, causing the intestine to be invaginated into itself, and so producing chronic obstruction. The growth, with a good length of intestine, was excised, and the patient is now well, some eighteen months later.

Cases are not all of a straightforward character. An ulcer of the intestine, from whatever cause, may lead to an attack of localized peritonitis, and this is not uncommon in connexion with the chronic cases, especially in the region of the caecum. Invasion of the wall of the intestine occurs through the base of the ulcer, and what follows is exactly the same as in a case of appendicitis—namely, adhesions, a localized abscess, or general peritonitis. Most of the lumps found in these cases are due to this complication, the mass consisting mainly of inflamed adherent omentum and not of actual infiltration of the growth.

These cases may exactly resemble attacks of recurrent appendicitis, and one very interesting example, whose caecum I show you, was like that.

The patient was the wife of a doctor, and the subject of chronic phthisis. Some months before she was taken ill with pain in the right iliac fossa, vomiting, and constipation. A lump appeared in the region of the appendix, and for a day or two it was doubtful whether she had not an abscess, but all her symptoms cleared up in the course of a few days, and the lump gradually vanished. Two or three months later a second attack came on resembling the first. It was deemed advisable, as soon as she had recovered from this attack, to remove the appendix. On opening the abdomen and exposing the region of the appendix and caecum it was found that instead of a merely diseased appendix there was a much more formidable condition to be dealt with, namely, tuberculous disease of the appendix, caecum, and ascending colon. In this case there is no doubt that her attacks of localized peritonitis were not due to tubercle, but to

secondary infection by the *B. coli*. A portion of the ileum, the caecum, and the ascending colon were removed; the ileum was then joined to the transverse colon, and I am glad to say she is now going about feeling perfectly well.

The interest of a case of hyperplastic tubercle of this kind is that it may very easily be mistaken for carcinoma.

Another case I will relate to you illustrates very well the condition of a localized abscess in connexion with carcinoma of the colon.

A woman of 53 was admitted to the Royal Free Hospital complaining of abdominal pain. She soon developed a lump in the region of the sigmoid flexure which quickly became adherent to the abdominal wall and was clearly inflammatory in origin, but it was recognized that there was something more behind it—either a new growth or possibly a foreign body which had perforated the intestine. The abscess was opened, and a quantity of foul-smelling pus was let out. The major portion of the cavity was in the muscle of the abdominal wall, but there was a small sinus leading deeper into the abdominal cavity. This was allowed to drain for about two weeks, during which time no faecal matter escaped, and the discharge became very small in amount.

I then opened the abdomen by incisions which surrounded the abscess cavity. The lump which could be felt before the operation proved to be what I show you—a carcinoma of the colon with an ulcer which has perforated its wall, the great omentum, which has exercised a protective influence by becoming stuck over it. The abscess has then progressed through the omentum into the abdominal wall. An interesting feature is that the portion of colon involved turned out to be the transverse, although it was fixed in the region of the sigmoid. I was able to remove the whole mass, including practically the whole of the great omentum, 8 in. of the transverse colon, and the corresponding portion of the mesocolon.

Another case of similar interest was the following:

I saw with Mr. Boyce Barrow a lady suffering from pelvic peritonitis. Her symptoms rapidly cleared up when an abscess discharged itself through the vagina; but ten days or so later she developed intestinal obstruction of the mechanical type. On opening the abdomen the cause of all her troubles was found to be a carcinoma in the last six inches of the ileum which had perforated, forming a localized abscess at the bottom of Douglas's pouch; this it was which had discharged itself through the vagina. We were able to excise the growth with the caecum, ascending colon, and glands, and she went home well.

One other case of mine was of interest. The abdomen was opened for a growth causing chronic obstruction, which proved to be in the ascending colon, but she also had an entirely separate and irremovable growth in the stomach.

TREATMENT.

In the treatment of cancer of the colon, apart from those with complete obstruction and very distended abdomens, dealt with at the beginning of this lecture, there are various problems to be solved when the abdomen is opened.

I.

If the growth is removable, is there a sufficient amount of obstruction to render it a dangerous operation to immediately resect the growth and unite the divided ends?

This is a point where grave consideration is necessary, and a wise decision may make all the difference between life and death.

If the intestine is distended and contains fluid faeces, and especially if purgatives have been unwisely and unsuccessfully given shortly before the operation, the intestine above the growth is likely to be oedematous and brittle and hold the stitches badly. In this condition a temporary colostomy is the wisest choice, however aggravating such a measure may be for both surgeon and patient.

If a temporary colostomy has to be performed, what situation shall be chosen? This depends upon the site of the growth. If it is in the sigmoid, descending or transverse colon, then the caecum is the best place in which to make the safety valve. If the caecum is involved (though caecal growths are usually discovered before obstruction occurs), then the fistula must be made into the ileum.

The site of a temporary colostomy should be planned, if possible, as much away as possible from the site of the incision for the subsequent removal of the growth, for the skin in the immediate vicinity of the colostomy is likely to be irritated by the fluid nature of the faeces in the caecum, and impossible to sterilize when the abdomen is opened again. As a rule, there is not much difficulty in obtaining such a site, but in one of my cases it would have been wiser to have substituted the old-fashioned lumbar colostomy of the ascending colon, such was the uncontrollable irritation of the skin of the whole abdomen.

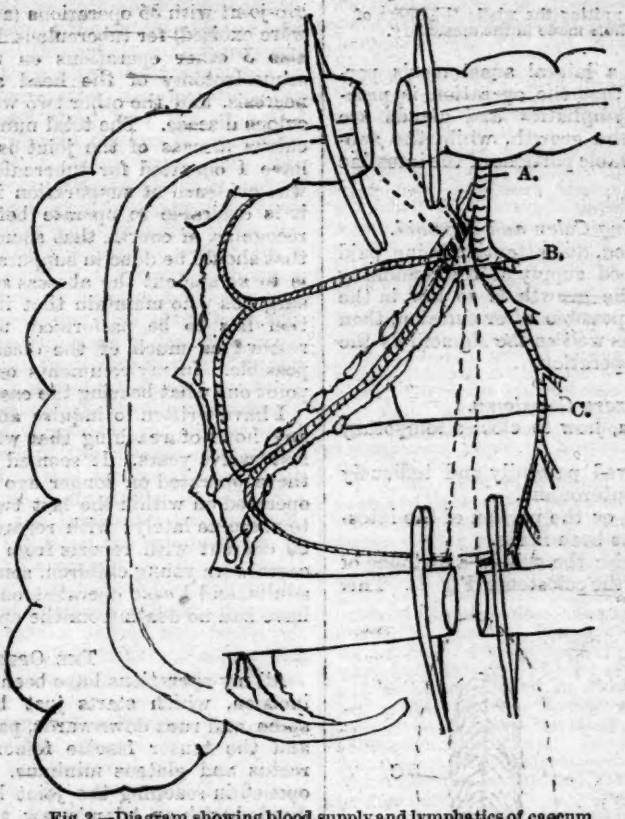

Fig. 2.—Diagram showing blood supply and lymphatics of caecum and ascending colon. Dotted lines show division of posterior layer of peritoneum, mesentery of the small intestine and mesocolon, with clamps on the bowel. A, Superior mesenteric artery. B, Ileo-colic artery, with right colic artery coming from it. C, Lymphatic glands.

II.

The next point to be considered, supposing there is no sufficient obstruction to render immediate resection dangerous, is, Can the growth be completely removed? If it cannot, then can any form of anastomosis be planned to short-circuit the growth and so avoid the otherwise inevitable obstruction? If the growth is so low in the sigmoid that this is not feasible, we are allowed no alternative but to leave the patient with a colostomy.

Another point arises here. If the patient has a removable growth, but infected glands extending into such a situation that it is not possible to remove them, should nothing more be done and the abdomen closed? I say No. The patient is certain to come to a painful end either from obstruction or peritonitis. This may be avoided if the growth in the intestine can be completely removed. Of course, death will ensue from spread to the liver, but an end of this kind much more resembles the "decline" of the novelist, and entails no suffering, but only an increasing anaemia and weakness, ending in death.

The operative measures designed to radically cure by complete excision, not only of the growth, but of the lymphatic areas into which it has spread visibly, or is likely to have spread microscopically, have been much extended of late years. Formerly the bowel was cut across much too near the growth. Now we know that there is no risk in removing many inches of the intestine. The whole colon may even be removed, though this is rarely necessary.

Carcinoma of the Caecum and Ascending Colon.

As will be seen from the diagram (Fig. 2), the caecum and ascending colon are supplied by one artery, the ileo-colic, the right colic usually coming off as a branch from it. The lymphatic vessels and glands follow the course of this artery. The plan adopted is to tie the ileo-colic at its origin from the superior mesenteric just at the lower

border of the transverse portion of the duodenum. The peritoneum, fat, and glands are then stripped downwards and outwards to the caecum and ascending colon. The ileum is clamped 8 in. from the caecum and divided. Clamps are similarly applied to the transverse colon at a movable and convenient point, and it and the transverse mesocolon severed. It now only remains to divide the peritoneum on the outer side of the ascending colon, and the removal is completed. The cut ends of the divided

Fig. 3.—Colostomy performed by uniting the whole thickness of the abdominal wall through a hole made in the mesentery.

intestine are then closed and a lateral anastomosis performed. The advantages are that the operation is practically a bloodless one, the lymphatics and glands are removed in one piece with the growth, while the subsequent junction is easy as movable portions of the intestine are to be dealt with.

Transverse and Descending Colon and Sigmoid.

Similar measures are adopted, due attention being paid to leaving uninjured the blood supply of the remaining parts of the colon. When the growth is so low in the sigmoid that no junction is possible after excision, then the rectum must be removed as well as the sigmoid by the combined abdomino-perineal operation.

Closure of Temporary Colostomy.

I now come to the question, how to close a temporary colostomy.

1. The spur may be removed painfully and tediously by crushing with a clamp or enterotome.

2. Excision of the opening or the portion of the intestine into which the opening has been made.

The plan I practise is to incise the skin at a distance of 1½ to 2 in. from the margins of the colostomy (Fig. 4). This

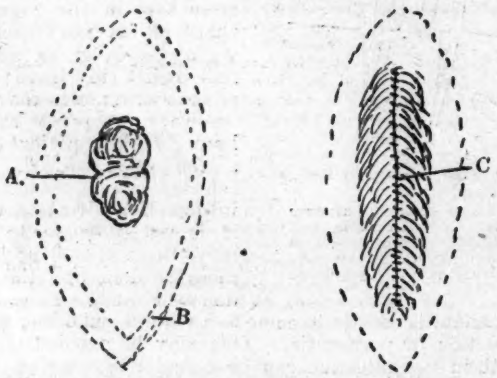

Fig. 4.—A, Colostomy. B, Incision in skin. C, Island of skin sutured over colostomy.

island of skin is dissected up towards the opening, and its edges sutured together with strong silk, so that it forms a watertight covering for the opening. This gets rid of two difficulties:

1. The leakage of faecal matter during the operation.
2. The septic skin around the opening.

The abdomen is then opened at some little distance to avoid the adhesions in the immediate neighbourhood, and it is then easy and quick, by sacrificing a little of the muscle of the abdominal wall, to completely free the opening. Clamps are then applied and the colostomy cut away. If it is the caecum, the edges of the wound are then united by a double row of stitches. If there is so little lumen left that there would be a stricture after repair, then that portion of the intestine is excised and end-to-end anastomosis performed.

It but remains to describe formal and permanent colostomy. Every one has his own plan, and many are good. The one I like best is to bring the colon through the outer part of the left rectus a little below the umbilicus. A hole is made through a bloodless portion of the mesentery, and the whole thickness of the abdominal wall is then united through this opening. A few days later the colon is opened in the ordinary way.

THE RESULTS OF EXCISION OF THE HIP-JOINT IN 34 CASES OF SUPPURATING TUBERCULOUS DISEASE.*

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THIS is a consecutive series of 34 cases of excision of the hip-joint with 35 operations (as in one case both hip-joints were excised) for tuberculous disease, but I have performed also 3 other operations on the hip-joint. One was a sequestrotomy of the head and neck of the femur for necrosis, and the other two were arthrectomies for tuberculous disease. The total number of operations for tuberculous disease of the joint is therefore 37. In no case have I operated for tuberculous hip disease until there was evidence of suppuration in the joint, nor do I think it is desirable to operate before suppuration occurs. I recognize, of course, that some surgeons consider that all that should be done in suppurating tuberculous hip disease is to scrape out the abscess sac; but I agree with those surgeons who maintain that it is better, when once operation has to be performed, to do more than this, and remove as much of the diseased tissue of the joint as possible. In my comments on the series of cases I shall point out what bearing the cases have on this view.

I have written to inquire about all the cases there was any hope of reaching that were operated on during the last twelve years. It seemed hopeless to try and get at those operated on longer ago than this. Some of those operated on within the last twelve years I have been able to examine lately; with regard to others, I have had to be content with reports from the mothers. Most of the cases were young children, some were over 12, a few were adults, and 1 case operated on this year (1912) was 57. I have had no death from the operation in the whole series.

THE OPERATION.

All my operations have been performed by the anterior incision, which starts just below the anterior superior spine and runs downwards, passing between the sartorius and the tensor fasciae femoris, and then between the rectus and gluteus minimus. Very often the abscess is opened in reaching the joint by this route. The neck is divided with an Adam's saw, and the soft parts around it cut with scissors. There is often much difficulty in turning out the detached head. I have found that the now almost obsolete perineal lithotomy scoop is a useful instrument for this purpose. Lion forceps crush the soft head too much, but sponge-holding forceps will sometimes be useful.

I then cut away with scissors curved on the flat all the tuberculous tissue I can. Occasionally I have been able to remove in this way quite large pieces, but it is a very different matter from doing an arthrectomy of the knee, in the performance of which it is so easy to see all the diseased tissue. In excision of the hip one has to be very largely content with free scraping of the diseased soft tissues, and scraping and gouging away diseased bone in the acetabulum; and, of course, sequestra are searched for and removed. In my first 24 cases I found sequestra in 10; in most of the cases several were present either in the head or acetabulum, most often in the latter. One sequestrum measured 1 in. by ½ in. The frequency with which sequestra are present in these cases is, I think, one reason in favour of excision rather than simply scraping out the abscess. No doubt many of these sequestra would in time disintegrate and come away, but I am sure their removal would tend very materially to hasten the process of recovery. In all cases the abscess sac, as well as the

*A paper prepared for the discussion on The After-Results of Major Operations for Tuberculous Disease of the Joints, in the Section of Diseases of Children, at the Annual Meeting at Liverpool.

interior of the joint, is scraped and flushed with 1 in 10 biniodide solution, and carbolized iodoform is applied to the wall. I have always drained for as long as discharge came away.

EARLY RESULTS.

All cases were drained, but within two months in most cases all discharge ceased and the wounds healed. This is more than I think we can expect if we simply deal with the abscess sac, and is, I think, the great advantage of excision as compared with methods in which the abscess alone is dealt with.

LATE RESULTS.

In nearly all cases flexion to a right angle was possible, but lateral movement was not usually as good as flexion, and in some cases was quite limited, but in one of the cases movement was almost perfect in all directions. Shortening was usually present to the extent of 2 to 2½ in. in cases seen some years after the operation, but may not be more than 1 in. for some time after the operation. In one case it was 4 in. nine years after the operation, the position of the trochanter indicating how the stump of the neck had become forced up on the dorsum ilii. In some cases the limp was slight, but in others, some years after the operation, it was marked, even when the shortening had been compensated for by extra thickness of sole of the boot. There seemed to be a marked want of stability about the joint. But even in these cases the patient could walk a considerable distance. In some of the cases with more stable joints they could walk many miles, and one boy was said to be able to climb trees just like other boys. It seems to me that to remove the head of the bone must tend to instability of the joint from displacement on the dorsum ilii, and that therefore we cannot expect as stable a joint after excision as after an operation which simply deals with the abscess. Yet it seems to me that it is so desirable to get away as much of the disease as possible when we have to operate, that this fact would not make me abandon excision in favour of simply dealing with the abscess. This instability of the joint after excision can, of course, be prevented by inserting the trimmed top of the great trochanter into the acetabulum after removal of the head, but this is likely to be followed by ankylosis; and it seems to me that it might be quite doubtful whether in the course of years a patient was better off with an unstable or an ankylosed hip-joint. Moreover, the joint may become ankylosed in a position of flexion and adduction.

I cannot say whether the range of movement is as good after recovery when simply the abscess is dealt with and the head of the bone is not removed, because in the only two cases in which I did not remove the head (the two cases of arthrectomy) I did not see the cases years after; but I should not expect as good a range of movement. I know that some surgeons who treat suppurating cases of hip disease by dealing with the abscess only say that in all after recovery movement is good, but, as I have said, with the exception of my two cases of arthrectomy I have done excision in all my suppurating cases, and therefore I cannot express any opinion about it. All I can say is that in some cases after excision the range of movement possible is astonishing, that flexion to a right angle is almost always possible, and that in many cases lateral movement becomes fairly free also.

With regard to the amount of shortening after recovery from the two forms of operation, Mr. Barber says:[1] "How often have we seen patients treated on splints for years recover without abscess, and yet with two or three inches of shortening"; but I must say I should expect to get greater shortening in some cases after excision than one would be likely to get after simply draining the abscess, because I have seen the stump of the neck displaced so high up on the dorsum in some cases many years after the excision.

We must, however, remember that two very potent causes of marked shortening exist apart from excision of the head—wearing away of the head by the disease, and the production of a "wandering acetabulum," which would allow of much the same displacement of what was left of the head on the dorsum ilii as occurs after excision of the head.

In one of my cases deformity recurred eight years after operation, and was removed by weight extension. There was no recurrence of the disease. Recurrent deformity was only rarely present in my series of cases.

CASES OF EXCISION OF THE HIP-JOINT.

1. C. R., aged 13; operated on in November, 1894. By December there was no discharge, and the wound was "almost healed." An abscess subsequently formed in the gluteal region. This was operated on in February, 1895, and was healed in April. In February, 1895, there was no deformity, could flex to half right angle, but there was no lateral movement; 1½ in. shortening; had not yet walked on it.

2. M. T., aged 10; operated on in March, 1896. Wound healed in April. In 1898 abscess formed in connexion with cavity at base of trochanter; this was scraped out, and soon healed. On examination in October, 1897—that is, eighteen months after operation—the patient could then walk freely with some limp; 1 in. shortening; could flex to right angle, but hardly any lateral movement. When examined again in 1899, there was 1¾ in. shortening. There were lateral movements as well as flexion possible. In 1907—that is, eight years later—had to have weight extension for recurrent flexion and adduction, but movement was still fair, and no signs of recurrence of the disease.

3. G. P., aged 5; operated upon in March, 1897. The wound became infected with tubercle, and did not heal for many months. There were tuberculous iliac glands four years later. At this time—that is, four years after operation—the hip was noted as "sound, with remarkable freedom of movement."

4. M. L., aged 9; operated upon in July, 1897. Wound healed in August. Six years after operation abscess was found in connexion with cavity in upper end of femur, which healed in a year, and then remained well for six years, and then another abscess formed in connexion with another cavity in the same situation containing sequestra. Sinus was known to persist for at least another year.

5. W. T., aged 31; operated on in July, 1896. Wound healed in August. Seven months after operation the position of limb was normal; slight flexion, extension, and rotation out possible, but no lateral movement. There was no pain with movement, and could bear weight on limb in walking without pain. There was 2 in. shortening.

6. F. S., aged 11; operated on in March, 1897. The wound did not heal until late in summer, and the patient was sent to convalescent home in November. There was no late note of this case.

7. A. R., aged 9; operated on in November, 1897. Wound healed in December. Some superficial breaking down of scar which soon healed. This case was sent to the county workhouse. There was no late note.

8. M. B., aged 4; operated on in March, 1898. Wound healed in May. The patient died from tuberculous meningitis in May, 1898, associated with suppurating mastoid. On *post-mortem* examination firm adhesions were found in joint.

9. C. M., aged 6; first operation in December, 1897. The wound had "almost healed" in February, 1898. No note of when quite healed. Disease came in the hip on the other side, and this was excised in November, 1900. The wound had healed in December. A year after the first excision the note says: "Good position; fairly free flexion and lateral movement; 1 in. shortening." The range of movement became very great later. The patient went back to the workhouse from which it had been admitted, after second excision. There was no further note.

10. G. S., aged 12; operated on in May, 1897. Wound healed in July. A year later an abscess formed behind trochanter. There was no communication with hip. There was painless movement in joint. This soon healed. A sinus was found in the scar of excision three years after operation and was present when last seen six months later. Eighteen months after operation the patient could flex hip to right angle and adduct a little but not abduct. Position good; there was 2½ in. shortening.

11. E. Y., aged 14; operated on in May, 1898. Healing had taken place in June. An abscess formed more than a year after, and the patient was lost sight of at that time. Five months after operation there was a little movement possible; there was 1 in. shortening.

12. H. C., aged 15, was operated on in June, 1898, for recent septic sinuses. Rapid healing of the excision wound took place, but when discharged in August one of the old sinuses still discharged. There was no late note of this case.

13. S. G., aged 16; operated on in April, 1899. A sinus persisted in the position of the wound, leading to acetabulum. A year later a fresh abscess formed, and when the patient was last seen a sinus persisted.

14. B. E., aged 6; operated on in January, 1902. Wound healed in February. In April the patient was found to have tuberculous disease of the metatarsal bone. This was operated on and healing took place. A note made in April says the hip was sound, but no late note was made, and a letter of inquiry this year (1912) was returned through the Dead Letter Office.

15. A. D., aged 13, was operated on in February, 1902. The wound had almost ceased to discharge in March, and was healed in May. In October very fair movement in hip in all directions. Examined two and a half years after operation, the patient could then flex to right angle, and fair lateral movement. There was 2 in. shortening, and even with sole 2 in. extra thickness limps a good deal.

16. L. T., aged 5; operated on in June, 1902, and wound healed in July. A sinus formed in the scar, and persisted for months.

In June, 1905, an abscess formed from disease in the upper end of shaft. The joint was not affected, and the abscess healed in a few months. But a letter written this year elicited the information that after I lost sight of her she had two further "operations," and was never able to walk, and died last year (1911), that is, nine years after the excision. On examination two years after the operation, the patient could then flex to right angle, but there was very little lateral movement. There was 1½ in. shortening.

17. L. H., aged 10. This was a case in which septic sinus and fresh abscess were present before operation in March, 1903. The sinus persisted when last seen that summer.

18. A. M., aged 4, was operated on in July, 1903. The wound did not heal until the beginning of 1904. In 1907 there was abscess from disease of the ilium, which healed in 1908 but left the joint fixed. A letter of inquiry in 1912 was returned through the Dead Letter Office.

19. A. F., aged 8; operated on in May, 1903. The patient died in August with pneumothorax.

20. G. H., aged 8; operated on in August, 1903. Healing had taken place by October. The wound broke down and discharged twice after it healed, but when last seen it was only a superficial granulation patch. A letter of inquiry sent in 1912 was returned through the Dead Letter Office.

21. M. P. was operated on in May, 1903. Wound healed in July. In January, 1904, a gluteal abscess was operated upon, and as a sinus persisted was again operated on in 1905. No further relapse had occurred when examined eight years later. In 1905 the patient had fair movement in hip without pain, and sinus could not be traced to hip or to any bone here. Examined in 1912, nine years after operation, he limped down on affected side very much; there was 4 in. shortening, and only compensated for ¾ in.; movement of flexion and adduction very good, but abduction very limited. Trochanter raised to level of anterior spine.

22. B. H., aged 6; operated on in February, 1904. Wound healed by March. There was no further note of this case. A letter written in 1912 was returned through the Dead Letter Office.

23. Mr. B., aged 35, suffered from phthisis. He was operated on in July, 1904. In August there was only a small granulation patch on scar, but later a sinus formed and persisted. The patient died from haemoptysis in 1905.

24. P. A., a child, operated on in August, 1904. The wound had healed, all but superficial area, in September, and had quite healed in October. An abscess formed later in autumn and sinus persisted. The patient was again operated on in May, 1905, and bare bone found in the shaft of the femur several inches below the joint. The joint deformity recurred in 1907, and the limb had to be straightened by weight extension, and then an abscess formed, and sequestra were removed from the acetabulum; there was then no sign of disease about the neck of the femur. In August, 1906—that is, two years after the operation—she could flex to right angle, and there was some lateral movement and rotation; ¾ in. shortening; there was not much limp. The patient died from general tuberculosis one month after operation on acetabulum, the symptoms of general tuberculosis starting a fortnight after operation.

25. G., aged 16, operated on in July, 1904. The wound had healed in August, 1904, but some deformity persisted. A sinus subsequently formed, healed, and then recurred, and in October, 1906, sequestra discharged. The sinus persisted for several years. The mother wrote in 1912 to say the sinus had been healed for two years, and that with a high-soled boot she does not limp much.

26. E. P., aged 27, operated on in November, 1906. The wound had healed in December. When examined eighteen months after operation there was fair movement in all directions. On examination in 1912, six years after operation, there was very free flexion and fair lateral movement, but she limped down on the affected side very much. There was 2½ in. shortening, but this was compensated by a high sole. She required a crutch for outdoor walking.

27. E. S., aged 9; operated on in April, 1907. The wound had healed in June. A sinus formed in the scar in July, 1908, and a soft patch of bare bone was found in the acetabulum; the stump of the neck was well covered in. In February, 1910, nearly three years after the last operation, the joint was quite sound and movements almost as free as usual. There was 2½ in. shortening. The mother wrote in 1912 that the child was in good health and only limped slightly, but that two abscesses had formed since 1910.

28. A. T., a child, was operated on in July, 1907, and healing had taken place in August. The mother wrote, in reply to a letter in 1912, that the child had had no relapse; she walked with a stick. In February, 1910, she died, after an illness of nine days, with some affection of the "back passage."

29. J. W., aged 9; operated on in August, 1907. The wound healed in September. There was no further note of this case. A letter of inquiry in 1912 was returned through the Dead Letter Office.

30. F. E., aged 12; operated on in April, 1907. The wound healed in June. In June, 1908, there was superficial ulceration in the scar. A note made in May, 1908, says: "Moderate movement in all directions. Some eversion; 2½ in. shortening." There is no note when the ulcer in scar healed: but the mother wrote in answer to a letter in 1912 that the patient was very well, and often did a 6-mile walk easily, but limped a little.

31. B. H., aged 3; operated on in December, 1907. The wound "healed rapidly." The patient had an attack of scarlet fever with breaking down of the wound, which did not heal until May, 1908. By October, 1908, there was almost perfectly free movement in all directions; 1 in. shortening. An abscess formed in the scar in December, 1908, and sequestrum discharged, but healing had taken place by January, 1909. Examined in 1912—that is, five years after operation—there was quite a normal range of movements, but limps much down on the affected side from instability of hip. There was 2 in. shortening, compensated for by high sole.

32. G. D., aged 12, was operated on in February, 1909. There was a septic sinus present. Healing had taken place in May, 1909. When seen again in April, 1910, the scar was sound, and there was fairly free movement in all directions; 2 in. shortening. In answer to a letter in 1912 the patient's relations reported that he could walk "wonderfully well," and climb trees like other boys, and was "not very lame," by which was probably meant that he did not limp very much.

33. E. C., aged 13, was operated on in April, 1910. The wound healed without any suppuration. The patient died with symptoms of tuberculous meningitis in June, 1910.

34. M. B., aged 57; operated on in February, 1912. Primary union took place, but a superficial ulcer formed in the scar: there were no complications.

CASE OF EXCISION OF HEAD OF FEMUR FOR ACUTE NECROSIS.

M. F., aged 12, was operated upon in August, 1908; sequestration of head and neck after acute necrosis. In March fair movement of joint. A sinus near trochanter had recently healed after scraping.

TWO CASES OF ARTHRECTOMY OF HIP FOR TUBERCULOUS DISEASE.

1. G. B., aged 5, was operated on in August, 1904. Healing had taken place in September. The patient was readmitted in December, 1904, with some swelling about the joint, but no abscess, and was discharged in Thomas's splint in February. An abscess was found three months later, which was opened by a doctor, and eventually a piece of bone was discharged. The patient died with symptoms of tuberculous meningitis three and a half years after arthrectomy.

2. M. S., aged 6, was operated on in March, 1906; soft tuberculous tissue was scraped away from around head and acetabulum. In May the wound was quite superficial, but an abscess formed in the gluteal region, which was opened and scraped out. In June a tuberculous abscess formed in the arm, and was operated on, and in August the same condition was present in the other arm. There was then a persisting sinus into the hip. There was no further note of this case.

REFERENCE.
[1] *Lancet*, 1900, vol. i, page 1493.

NOTE ON A SERIES OF FIFTY-FIVE CASES OF SUPRAPUBIC PROSTATECTOMY, WITH FOUR DEATHS.*

BY ANDREW FULLERTON, M.D., F.R.C.S.I.,
SURGEON IN CHARGE OF OUT-PATIENTS TO THE ROYAL VICTORIA HOSPITAL AND TO THE BELFAST HOSPITAL FOR SICK CHILDREN.

THE operation of prostatectomy has done so much to relieve the distress of a large section of elderly men that it is well to review the risks that they run in subjecting themselves to the ordeal. Many of my medical friends have told me that they hesitate to recommend what may, perhaps, prove to be an execution rather than a cure. The object of this paper is to bring forward the results of my own experience. In the June number of the *Practitioner* Mr. Hugh Lett, of the London Hospital, makes the following statement:

> The operation of prostatectomy cannot be looked upon as a trivial one, and I am strongly of opinion that, if statistics of this operation were compiled from the registers of a large number of hospitals, the mortality would prove to be not far short of 20 per cent., and possibly higher.

I am of opinion that a much lower percentage must be attained if the operation is to be more generally accepted by the profession and the public. I have up to the present operated on 55 cases with 4 deaths—a percentage of 7.2. The patients have not been specially chosen, but have been taken as they came, excepting only those who were obviously unfit for any operative procedure, however slight. The list includes patients from the age of 53 to the borders of 80—patients well preserved and relatively strong and patients broken down and exhausted, patients who were obese and patients who were emaciated, patients with fair

* Read at a meeting of the Ulster Branch, British Medical Association, in Belfast.

arteries and good hearts, and patients with marked degeneration of vessels and advanced cardiac disease.

The condition of the kidneys is perhaps the most important consideration, and marked renal inadequacy would prove an insuperable barrier to operation.

Some years ago I operated on a man, aged 53, for severe prostatic haemorrhage. He weighed 20 st., and most of the fat was in the omentum and abdominal wall. I had to have a footstool to reach his abdomen, and I had to put my whole hand into the bladder to reach the prostate. He had had several attacks—called "weak turns"—said by his medical adviser to be due to his heart. Notwithstanding all this he made an excellent recovery, and is at present in full employment in a responsible position in a mill.

In 1908, I operated on an old man—a sexton—aged 78 years, for recurrent attacks of haemorrhage with excruciating pain due to the clots. His arteries were hard and tortuous and he had a double aortic murmur. In addition, he had cystitis with a good deal of muco-pus in the urine. His doctor was very anxious that something should be done to relieve him, so in fear and trembling I removed his prostate, the operation from the skin incision to the delivery of the prostate lasting one and a half minutes. He made a good recovery and is now, at the age of 82, in good urinary health.

In 1909 a gentleman, aged 73, had, ten days before I saw him, a severe cardiac attack in which the pulse fell from its normal rate of 72 to 40 per minute. During this attack he became pale, blue, and collapsed, and his hands and feet were "dead" as far as the wrists and ankles. He recovered from this attack, but the pulse-rate remained at 40. When I saw him, ten days after this seizure, he had complete retention, and any attempt to pass a catheter was attended with bleeding and blocking of the eye of the instrument. Suprapubic puncture failed to relieve him, no urine being obtained, though the bladder was obviously full. On the same day I removed a huge sugar-loaf shaped prostate weighing 17½ oz. under ethyl chloride given by Dr. Fielden; the operation lasted fifteen minutes. After some anxious days, during which shock, haemorrhage, and hypostatic congestion of the lungs almost claimed their victim, the patient began slowly to recover, and he is to-day free from all urinary trouble, though his heart still beats at the rate of 40, and he suffers much from dyspnoea on exertion. With the prostate I removed a beautiful specimen of mulberry calculus.

This case was published in the BRITISH MEDICAL JOURNAL of May 22nd, 1909, and I was rather severely taken to task by a correspondent for my conduct of it, but "the proof of the pudding is in the eating," and my patient has had three years of comparative health and complete freedom from urinary trouble. He takes a lively interest in his own case, and occasionally invites a passing student to view his prostate in a glass jar at the Queen's University. I have given these few examples to show that grave general trouble need not necessarily be a barrier to operation.

The causes of the deaths in my series were as follows:

The first, an old gentleman aged 75 years, apparently in good health, with clear urine of good specific gravity, free from pus and albumen, died on the third day with symptoms of uraemia. I was not prepared for this result as I had had him examined as to his general condition by one of my medical colleagues before operating on him. There was more than the usual amount of bleeding, and, as a precaution, I packed the prostatic cavity with gauze.

In the second case, a gentlemen aged 54, who had had repeated attacks of haemorrhage with great pain, death took place six weeks after operation from perinephritic abscess.

This I attributed to an unsuspected collection of phosphates and débris in the bladder which failed to come away with the irrigation. I now make it a practice, if in doubt, to insert my finger down to the base of the bladder and the prostatic pouch to satisfy myself that all foreign matter has been got rid of. In the third case death was due to spinal anaesthesia.

The patient, a man aged 68, had a weak heart and a double aortic murmur. His medical attendant declined to take the risk of giving him a general anaesthetic. I was asked to give him spinal anaesthesia, which I did with disastrous results. 1 c.cm. of a 15 per cent. solution of novocain with 1 mg. of strychnine was injected. Anaesthesia was excellent, but the patient immediately began to vomit and became grey, cold and collapsed. After a slight rally the prostate was removed, but the patient continued to vomit and died the same night.

I have included this as a death from prostatectomy, though I feel sure I should be justified in attributing it to the anaesthetic.

The fourth case was a gentleman aged 66. He had been up to his last illness an alcoholic subject. He was taught to pass the catheter and had been doing this for some months every two hours day and night. The urine at the time of my seeing him was very foul and the bladder was intensely inflamed and irritable. I kept him in a nursing home and washed out his bladder for ten days with practically no improvement. As a last resort I removed the prostate and a phosphatic calculus. The former weighed 6 drachms and the latter was about the size and shape of a pigeon's egg. For some days the patient did well, but soon the surface of the wound became foul and sloughy, the pulse increased in rate, the tongue became furred and covered with aphthae, which also appeared on the mucous membrane of his lips, cheeks, and gums; his temperature rose a little in the evening, he complained of thirst, and he lost flesh and colour. He died at the end of twelve days with all the symptoms of an acute septic intoxication, with pinched face, sunken eyes, cold extremities, and rapid thready pulse, retaining his faculties almost to the last, the picture recalling that of a patient dying from acute general peritonitis.

On reviewing this case I do not know whether it would not have been better to have simply drained the bladder, reserving the prostatectomy for a later date. I have no doubt that he infected his bladder with the catheter, and I always feel that this is the great risk in allowing a patient to enter catheter life. On the other hand, some of my patients have been dependent on the catheter for years, as in the following case, who, but for an accident, would probably have gone on with the use of the instrument to the end of his days.

A farmer, aged 73, had had trouble with his water for fifteen years. For ten years he had had to use the catheter several times a day, being unable to pass urine without. About six weeks before I saw him he was using a well-worn gum-elastic catheter, when, as he describes it, the skin came off and remained inside. After this he had great pain, and when I saw him he was passing the catheter every fifteen minutes. With the cystoscope the outer shell of a catheter could be seen curled up inside the bladder, which was much inflamed. I made an attempt to remove the foreign body with a small lithotrite, but it was so friable that I could not remove it completely. I then did a prostatectomy, and at the same time rid him of his foreign body. The patient was up in a fortnight's time, and his wound was dry on the sixteenth day. He now passes water with the courage and success of a boy.

The results in the cases that recovered have been, in the overwhelming majority, gratifying in the extreme. In most the patients can lie all night without being disturbed. A few report that they rise once in the night, and of these some say that this is due more to force of habit than any uncontrollable desire. In a few cases I have not been able to quite get rid of a certain amount of cystitis. Like other infections elsewhere in the body, infections of the bladder are hard to eradicate completely, notwithstanding careful irrigation carried on long after the wounds in the bladder have healed up. Two of the prostates removed, though apparently benign, proved on section to be malignant, and the patients died some months after from recurrence. In one case the tumour fungated through the abdominal wound after the latter had been soundly healed.

In one case a permanent suprapubic fistula remained. The operation was performed in the early days of prostatectomy before the exact anatomy of the procedure had been worked out. I must have removed a portion of the pelvic fascia in addition to the prostate. If violent efforts are necessary to remove the obstruction the surgeon may feel sure he is in the wrong layer and should desist lest damage be done to the neck of the bladder. The prostate must be enucleated, not torn out.

In two cases incontinence resulted after the operation. In one this was due to a drainage opening in the perineum, which was kept open for a long time. The compressor urethrae was, no doubt, damaged by the incision and the prolonged use of the drainage tube, which was rendered necessary by the absence of any attempt at healing of the suprapubic wound. Due respect should be paid to the integrity of at least a portion of the compressor. The anterior portion should be left to act as a sphincter in case the sphincter vesicae does not resume its functions. In the second case, the prostate was of the hard fibrous type. In my attempts to remove this I must have gone beyond the limits of the prostate. The first complication was a stricture, which I divided, with the result that the patient now has incontinence. In future I do not propose to make any attempt to remove such a prostate. It is beyond the art of surgery to remove completely a hard fibrous prostate with impunity. Prostatotomy, as recommended by Pardoe, or the use of the prostatic punch of Young, may prove to be of service in these cases.

The most serious complications that I have had to deal with have been as follows:

Haemorrhage.—This has usually been primary, occurring during the first forty-eight hours. It is always present to

a certain extent, and it requires some judgement to determine when it has passed safe limits and when interference is necessary. In some cases it is due to wounding of a vessel in the bladder wall when opening into it, and in some to tearing of the mucous membrane during the removal of the prostate. I use no instrument to tear through the mucous membrane over the prostate, but with the tip of the index finger rupture the internal meatus in an upward direction. The proper layer is soon felt. At the junction of the prostate with the base of the bladder posteriorly, separation ought to be carefully carried out, else a long strip of mucous membrane is liable to be torn away with the prostate, giving rise to haemorrhage. In most cases the bleeding comes from the plexus of veins around the prostate. In a few cases I have found it necessary to pack the cavity from which the prostate had been removed with a narrow sterilized bandage. This arrests the haemorrhage and is easily removed in a few days. I have tried a plug of gauze tied on to the end of a catheter and pulled through the urethra without success. I had one case of secondary haemorrhage of an alarming character on the seventh day after operation. This was due to separation of sloughs and was at first very hard to arrest. The narrow bandage packing was ultimately successful. Raising the foot of the bed on chairs has proved of value in some of the slighter cases. It cannot, of course, be continued for long in the case of old people.

Shock.—In most of my cases a fair amount of shock has been present. I have noticed it most when strenuous efforts are being made to enucleate the gland. This complication can, however, be reduced to a minimum by proper preparation of the patient and rapidity of operation. I have my patient's bladder washed out and all preparations, including those of the surgeon and his assistant, completed before the anaesthetic is given. If possible, I secure the services of an anaesthetist skilled in the administration of ethyl chloride as a general anaesthetic. I have completed the removal of the prostate in sixty-seven seconds from the beginning of the skin incision until the prostate was delivered. A few additional moments are spent in rapidly washing out the bladder and suturing the wound. A large drainage tube is left in the bladder. The patient is got back to bed as soon as possible and warmth applied. Salines by rectum should be administered until the shock has disappeared, which it generally does in a few hours. If it continues, subcutaneous infusion is resorted to. I do not use strychnine. I believe lives are sometimes lost by slow and too deliberate operating. The patients are often old and worn out, and the less they are handled the better. The least that can be done must be done with as much rapidity as is consistent with safety.

Hypostatic congestion of the lungs has more than once caused me considerable anxiety. The patient with the very large prostate, referred to above, developed it after a few days, but ultimately recovered. Change of posture and the use of the usual well-known remedies are indicated.

Sepsis is one of the most troublesome and dangerous complications I have had to deal with. If the bladder is septic I have it washed out before operation for some days, and in a few cases I have drained suprapubically as a preliminary measure. The drainage provided by the suprapubic wound is, however, not ideal. In one or two cases after operation I have tried, as an additional safeguard, perineal puncture, as suggested by Lynn Thomas, with satisfactory results. I would advise, however, that the drainage tube in the perineal wound be not kept in too long. I wash out the bladder every day while the patient is in the home or hospital, or until the urine is quite clear. While the suprapubic wound is still open this is done by inserting the nozzle of the syringe into the external meatus and forcing the fluid through the urethra into the bladder. Débris from the cavity vacated by the prostate is thus stirred up from below, and thorough cleansing is more certain thus to be obtained. I have no experience of vaccines in these cases, but I am very willing to give them a trial, and should expect benefit from them.

Epididymitis and epididymo-orchitis have given me a good deal of trouble. The torn ends of the ejaculatory ducts are liable to be infected, while the raw surface left after removal of the prostate remains unhealed. Every effort must be made to keep this surface as aseptic as possible in the hope of preventing this complication. It is often accompanied by a milk-white discharge from the meatus. It may be unilateral or bilateral, and is attended with a good deal of pain and constitutional disturbance. During the treatment of this condition the testicles ought to be supported on a broad strip of strapping from thigh to thigh placed as near the fork as possible. Glycerine and belladonna will relieve the pain, due care being exercised to prevent absorption of the belladonna.

Suprapubic fistula is an occasional complication. If this shows any tendency to persist I tie in a catheter, if I am satisfied that all sloughs have separated and the interior of the bladder is free from foreign matter. I have been in no hurry to remove the suprapubic drainage tube. It acts as an exit for phosphatic deposit and tags of mucous membrane, which might otherwise form nuclei for calculi. I have only had one case of permanent fistula. Touching the edges of the fistula with nitric acid or the actual cautery has proved successful in some, while in others I have been obliged to curette once, and occasionally twice, under a local or general anaesthetic. I have also faith in the occasional passage of a full-sized dilator. In one case I found that the cavity left after the removal of the prostate was maintained as a separate cavity, communicating by a small opening with the bladder. Radial incisions in the diaphragm threw the two cavities into one and cured the fistula.

Phosphatic deposit on the suprapubic wound and in the bladder is most annoying, and I have tried almost everything suggested to prevent it. I am at present trying the application of a few drops of acetic acid to the wound and dropped into the bladder through the drainage tube. I have not sufficient evidence to warrant me in recommending this procedure, but it can do no harm, and seems to me to be a likely remedy. In addition an attempt may be made, by suitable diet and excess of fluid, to prevent the deposition of salts.

Stone in the Bladder.—I have not had a case in which I have had to operate for a stone of any size. In one case the patient had attacks of pain and retention shortly after his wound was healed. With the cystoscope I detected a small calculus, which I crushed with a small lithotrite, without an anaesthetic. His symptoms immediately disappeared. In another case I picked out through the urethroscope a small stone which had blocked the urethra. Attention to the details I have given above will go far to prevent this complication.

Uraemia occurring immediately after operation generally ends fatally. In a more chronic form it may appear in the weeks or months following. The outlook is not good, but the patients may be kept going for a while by diuretics and aperients. One of my patients succumbed on the third day from this complication.

Stricture of the urethra ought not, I think, to occur with proper methods of operating and the choice of suitable cases. It is liable to occur after attempts to remove hard, fibrous prostates. As I have stated, it was present in one of my earlier cases.

Incontinence of urine occurs in some cases for a short time after the operation. In a very small proportion it persists. I have had two cases of permanent incontinence. From the experience I have had in these two cases I believe it can be avoided by keeping to the proper layer in removing the gland and in paying due respect to the compressor urethrae muscle.

Abscess in the kidney region occurred in one of my cases, as I have mentioned. Probably the patient had pyelonephritis. He began to have rigors about a fortnight after the operation, and, although I opened the abscess, he never rallied, but sank a few days later, and six weeks from the time of his operation.

Haematemesis occurred in one of my cases. It only lasted a few days, however, and the patient left the hospital apparently quite well. He was a worn-out old man of 80. I hear that he died some months later, but I do not know the cause.

Ventral Hernia.—I have had at least two cases in which the scar stretched to an uncomfortable extent. This must be a sequela in a certain number of cases, especially if the bladder is septic at the time of operation. It is wise, having regard to the possibility of this complication, not to make the wound in the abdominal wall too large, and to bring the cut margins of the sheath of the rectus together

with deep sutures. A suitable bandage is all that is necessary in the way of treatment.

Mental symptoms of a mild type have been present in several of my patients. One old man used to weep like a child without any apparent reason. My nurses say that a prostate patient is always a little "queer," and many of them are very difficult to deal with. I have not met with an acute outbreak requiring restraint.

Notwithstanding the low mortality in this series of cases I cannot say that I look lightly upon the operation of prostatectomy. Many are the pitfalls before the patient can be pronounced free from danger, and the medical attendant must give the closest attention to the after-treatment if he is to bring the case to a successful issue.

The patient, from his point of view, usually indicates to his medical attendant when his sufferings have reached the limit of endurance, and it is for the surgeon to determine whether the case is suitable for operation or not. In the future, I believe, cases will be subjected to operation earlier, before permanent damage is done to the urinary organs, with a corresponding diminution in the mortality.

SOME PROBLEMS CONNECTED WITH RHEUMATOID ARTHRITIS.

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THOUGH we are now able to distinguish rheumatoid arthritis from other forms of arthritis, and definite criteria have been established upon which to base a reasonably sound diagnosis, little corresponding advance has been made with reference to the pathogeny of the disease, and in consequence our methods of treatment are still almost entirely empirical. Attempts have been made towards a rational form of treatment—first, by the administration of intestinal antiseptics, on the assumption that the disease is a result of intestinal toxaemia; and secondly, by vaccine-therapy, on the assumption that the disease is a general infection. Neither of these assumptions is proved, and our present somewhat blindly directed methods of treatment are anything but uniformly successful in cutting short the disease, and it only too frequently happens that the victims of this relentless disorder get steadily worse. The swollen and tender joints become progressively more ugly, the wasted and distorted limbs more burdensome and useless. The false hopes engendered by remission are promptly quenched by the inevitable relapse. In no case, however slight, can we look upon the disease as otherwise than serious, and it is incumbent on all who see much of the disorder to consider carefully the bearings of such knowledge as we now possess relative to the intrinsic nature of the disease, and to see in what direction further investigations might profitably be undertaken to establish an accurate and complete pathological basis.

Rheumatoid arthritis may be defined as a disease, characterized by the occurrence of more or less symmetrical, spindle shaped, inflammatory swellings of the peri-articular structures, affecting first the smaller joints of the hands and feet, and accompanied by wasting, cramps, and contractures of muscles. The more severe cases are marked by moderate fever, anaemia, and occasional swelling of lymphatic glands and spleen, and most cases show more or less well marked sensory abnormalities and vasomotor changes. The disease tends to last for many years, with occasional intermissions of varying duration. Nearly every joint in the body may be ultimately affected, and the later stages may be complicated by osteophytic outgrowths resembling the condition found in osteo-arthritis. The intensity of the disease varies within wide limits, and the clinical picture may be correspondingly diverse. The fact that various local foci of infection may be associated with the disorder has given rise to the suggestion that the cases presenting the above-mentioned characteristics do not constitute one disease. The tendency in some quarters is to limit the term "rheumatoid arthritis" to the more acute type occurring in young women, more particularly after childbirth, the less severe and less typical cases being considered in a different category under the term "infective arthritis." The proof that the associated infective foci are the direct cause of the disorder is insufficient, and clinically one is able to trace a complete series of cases, from the severe type mentioned above to those in which the characteristic joint lesions, themselves slight, constitute almost the only evidence of the disease. It would appear more correct in the present state of our knowledge to confine the term "infective arthritis" to those conditions such as pneumonic, tuberculous, pyogenic, and gonococcal infections, in which there is indubitable proof of the microbic origin of the joint lesions. The term "rheumatoid arthritis" indicates by common consent a certain combination of clinical phenomena, and, as regards doubtful etiological factors, is entirely non-committal. On the other hand, the term "infective arthritis," as applied to conditions conforming more or less closely to the rheumatoid type, implies knowledge which we can hardly claim and conveys no indication of clinical features.

The more closely we become acquainted with this condition, the more patent does it become that we are dealing, not with a localized condition of arthritis, but with a general disorder by which the whole system is profoundly affected. The anaemia, wasting, glandular enlargements, vasomotor symptoms, cramps, and trophic disorders, all point the same way, though in the slighter cases these symptoms are less prominent and apt to be overlooked.

Apart from the joint lesions, one of the most noticeable and constant phenomena in true rheumatoid arthritis is a remarkable condition of vasomotor instability of the extremities.

No one who is frequently brought into contact with the disease can fail to notice the constancy of these associated vasomotor changes, from which patients suffer great discomfort and considerable pain. A condition in which the extremities look blue, congested, and puffy, giving rise to a tense, swollen sensation, alternates with a form of spasmodic ischaemia, in which the fingers are cold, pallid, waxy, and numb. The intensity of these vascular changes varies within considerable limits, but may be so great as to suggest the presence of Raynaud's disease. In illustration of this I may be allowed to quote the case of a well-known member of our own profession with typical rheumatoid lesions of both hands, who at the commencement of his illness, before joint lesions became manifest, diagnosed his own condition as Raynaud's disease.

The vasomotor abnormalities may exist in greater or lesser degree for long periods before other symptoms of rheumatoid arthritis supervene. Patients will frequently state that they have been subject to "bad circulation" or "dead fingers" for many years before the onset of joint lesions. One middle-aged patient stated that for something like thirty years there had been such a severe tendency for the fingers to become "numbed and dead" that ordinary housework was almost impossible, and it is not uncommon for patients to give a history of five or more years during which they have noticed similar symptoms.

A study of the histories of a considerable number of cases suggests that the tendency to marked vasomotor instability is an index of some personal idiosyncrasy predisposing to the disease, rather than a direct result of the exciting cause.

Associated with the vasomotor changes are the muscular cramps, which are very characteristic of the disease, and occur with great frequency. They do not necessarily occur in the muscles directly connected with the affected joints, and may occur entirely in the legs when the hands and arms are the site of the more severe articular lesions. In such a case I have known walking to be entirely prevented owing to the pain occasioned by violent cramps in the calves directly the patient attempted to get about. The coexistence, in both rheumatoid arthritis and Raynaud's disease, of spasmodic ischaemia of the extremities and cramp of the limbs, suggests that the latter is due in both conditions to spasms of the arteries supplying the muscles, with resultant accumulation of metabolic end products.

The early incidence of rheumatoid arthritis on the nervous system is indicated by the marked increase of reflexes, early wasting, and definite sensory disorders, which together go to make up a large part of the clinical

picture presented by the disease. The late Dr. W. M. Ord was the earliest to suggest that the disease was primarily a nervous disorder, and though the exact significance of the nervous symptoms has not been determined, further researches in this direction may possibly throw light on the essential nature of the disease.

The well-marked increase of deep reflexes is a notable feature in the early stages of the disease, and Dr. R. J. Llewellyn, who has made a careful study of the superficial reflexes, states that these also may be definitely increased. Muscular wasting may ensue with considerable rapidity, and even precede any marked lesions of the joints. In addition to the general wasting associated with the disease, the extensor muscles of the affected joints seem to be specially picked out. As the shoulder-joint is frequently affected next in order to the joints of the hands and wrist, it not uncommonly happens that the early wasting of the deltoids, together with the smaller muscles of the hands, is somewhat suggestive of the early stages of progressive muscular atrophy.

Sensory changes, as numbness, formication, and sensations of pins and needles, are constant and early phenomena. The exact distribution of sensory changes and of the pain associated with the disease is a matter of considerable interest. Llewellyn finds the sensory changes to correspond with segmental areas, and points to certain abnormalities of superficial and deep reflexes as bearing out the suggestion. I must admit that I have been unable to demonstrate in my own cases any clearly defined segmental distribution. On the whole, the distribution of sensory changes has seemed to me to follow that of peripheral nerve branches rather than of spinal segments, but in this connexion we must remember the possibility, suggested by Dr. James MacKenzie, that intrinsic lesions of the joints may themselves give rise to referred pains of segmental distribution.

The whole subject of the motor and sensory phenomena associated with rheumatoid arthritis is one of much interest, and affords a large field for further investigation. Unfortunately the few recorded *post-mortem* examinations throw little if any light on the question, and as, in the nature of things, we are likely to get little help from this source in eliciting the character of the earlier stages of the disease, accurate clinical observation becomes doubly necessary.

The above mentioned nervous and vasomotor phenomena, together with the anaemia, debility, and symmetrical joint lesions, point to the conclusion that rheumatoid arthritis is essentially a widespread systematic intoxication, and the question remains whether it is a toxaemia from without due to bacterial invasion, or a disorder from within due to qualitative or quantitative changes disturbing the balance of the various internal secretions.

From the time when Drs. Bannatyne and Wohlmann first demonstrated organisms in the synovial fluid till the present, numerous investigations have been carried out, both in this country and abroad, with a view to the isolation of a specific organism, either from the joints or blood. Many observers have failed to demonstrate organisms at all, while in the cases where they have been found there is no uniformity of results. Instances of improvement following a course of vaccine-therapy have been recorded, but their number is not sufficiently great to enable us to say whether the administration of vaccine, generally speaking, is likely to prove more efficacious than other methods of treatment. Though there is a good deal of clinical evidence, and a certain amount of experimental evidence to support it, the hypothesis of the bacterial origin of the disease must still be considered *sub judice*.

Efforts have been made to correlate the disorder with the presence of different local foci of infection, and pyorrhoea alveolaris, rhinitis, otorrhoea, sinusitis, endometritis, and inflammatory conditions of the gastro-intestinal tract have been severally considered responsible for the condition. Here, again, the evidence is inconclusive. The very multiplicity of the affections named, and the variety of organisms responsible for them, suggest that whatever influence they may have as predisposing factors, we must look elsewhere for the determining cause. Further, such conditions as pyorrhoea, uterine discharges, and septic conditions generally are so extremely common that if they were direct causes of rheumatoid arthritis we should expect the latter to be far more frequent than it is.

In a large proportion of cases of rheumatoid arthritis there is no demonstrable site of infection. In these the supporters of the chronic infective theory are forced to postulate some cryptic source of infection in the gastro-intestinal tract, and we cannot dismiss the possibility that chronic intestinal toxaemia may stand in a more direct relationship to the disease. Patients frequently complain of chronic dyspeptic symptoms as an antecedent to the joint troubles. Strangeways states that 39 per cent. give a history of antecedent gastric disorders, but unfortunately the cases from which the statistics are derived included forms of arthritis other than rheumatoid. In my own cases symptoms of gastric ulcer, latent or otherwise, have occurred sufficiently often to be very suggestive of some association between the two diseases, but the number of cases has not been great enough to render statistics on the point of any value. The removal of decayed teeth and treatment of pyorrhoea alveolaris are frequently followed by striking improvement in rheumatoid symptoms, but this is probably to be explained by the marked improvement in general health and vitality which results from the removal of digestive disorders. Intestinal antiseptics certainly have an influence for good in the disease, and, as far as my experience goes, small repeated doses of grey powder seem to have done more good in the treatment of the more acute types than any other remedy, though salol, β-naphthol, and other antiseptic drugs no doubt possess similar properties in varying degrees.

Thus the theory of gastro-intestinal toxaemia is sufficiently plausible, and borne out to a certain extent by therapeutic tests, but further investigations are required as to any bacterial or chemical features of the gastro-intestinal tract, peculiar to the disease, before we can unreservedly accept it.

Whatever views we may hold as to the infective origin of rheumatoid arthritis, there can be no doubt but that the personal element is an important factor in the genesis of the disease. The fact that about 80 per cent. of the cases occur in women, nearly all between puberty and the menopause, is in itself suggestive. Again, many of the sufferers come of a distinctly arthritic stock. Garrod quotes over 40 per cent. as having a family history of gout or "rheumatism," and it is no uncommon thing to find two or more members of a family suffering from the disease. I have notes of one case in which no less than seven members of one family, in two generations, suffered from the same, or at least a similar, disease at the same time—namely, father, mother, three sisters, and two female first cousins.

Consider, again, the age and sex relationship of rheumatoid arthritis to gout. Whereas nearly 90 per cent. of cases of rheumatoid arthritis occurring in women fall between the age of 15 and 45, arthritic gout in the female sex is extremely uncommon between these ages. Thus it would appear that there is some powerful agency at work in women during the reproductive age which is as conducive to rheumatoid arthritis as it is antagonistic to gout.

On the other hand, the vast majority of cases of Graves's disease correspond in sex and age limits to those of rheumatoid arthritis, and the general relationship of the two diseases suggests the existence of some important factor common to both. Numerous cases have been recorded by McAlister, Llewellyn, Sprigg, and others in which definite Graves's disease and rheumatoid arthritis have existed simultaneously in the same patient, and symptoms of hyperthyroidism, in the form of tremor, soft rapid pulse, moist skin, and tendency to pigmentation, are amongst the most constant features in the more severe cases of rheumatoid arthritis.

Whether the profound constitutional changes found in both diseases are due to microbic infection is at present uncertain, but this question does not affect the conviction to which we are by circumstances forced, that in both rheumatoid arthritis and Graves's disease there exists a strong personal predisposing factor, which is enormously enhanced in the female sex, especially during the period of reproductive activity. In both diseases there appears to be some deep-seated metabolic error, involving important changes in internal secretions, and the personal factor predisposing to either may consist in a congenital or

acquired instability of the normal relationships which govern secretory activities.

However this may be, there is a strong family resemblance between Raynaud's disease, rheumatoid arthritis, and exophthalmic goitre. Whether there is any etiological or pathogenic factor common to those diseases remains to be seen. At the present time the pathology of all three is equally secure, and the nature of any relationship between them is entirely conjectural.

Whatever its relationship to other diseases, rheumatoid arthritis presents in itself many points of interest and many features of obscurity. I have attempted to indicate briefly certain problems in connexion with it which require to be elucidated before we can claim to have a sound knowledge of its pathology. On the clinical side a wide field of investigation is afforded in the systematic and careful consideration of family history and individual peculiarities in so far as they indicate a personal factor predisposing to the disease, together with precise investigations as to the nature and significance of the so-called accessory symptoms as they affect the nervous and vascular systems respectively. On the pathological side we require to know what relationship, if any, exists between the various foci of infection which frequently precede the disease and the subsequent phenomena, and more especially the importance of gastric and intestinal toxaemia as an etiological factor. It is possible that expert bacteriological examination of the flora of the gastro-intestinal tract in a series of cases might throw considerable light on this aspect of the question, and such investigations are urgently required.

Systematic chemical and bacteriological examination of the urine, to determine not only the presence or absence of disease of the urinary tract, but more particularly the standard of renal efficiency and the presence of any peculiar features of excretory activity, are also required to throw further light on any metabolic peculiarities incidental to the disease.

THE OCCURRENCE OF ACUTE PNEUMONIA DURING TREATMENT WITH ARSENIC.*

BY

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In a few cases I have observed the sudden occurrence of pneumonia in children whilst they were undergoing arsenical therapy on account of lymphadenoma or some other disease, and it has appeared to me that the association was no chance one, but that the pneumonia was in some way dependent on the taking of arsenic, as is arsenical herpes zoster. Two of the patients likewise had attacks of arsenical herpes zoster. The rapid recovery from the lung disease was another striking feature.

CASE I.

Sophie T., aged 15, under my care at the German Hospital in 1902 for lymphadenoma, was a thin anaemic girl. The lymphatic glands on the right side of the neck and the spleen were greatly enlarged. Enlarged cervical glands had been present as early as 1898. In June, 1902, whilst under arsenical treatment, she had a short acute attack of pneumonia at the base of the left lung, accompanied by very little fever. It may be noted that about a year previously (1901) whilst taking arsenic she had had a mild attack of herpes zoster (doubtless arsenical herpes zoster) on the left side of the chest, though in regard to her general condition the arsenic seemed to have done her good. The herpes zoster apparently caused her no pain or inconvenience.

She died in December, 1902, and the necropsy showed the presence of considerable (partly miliary) tuberculosis in addition to old lymphadenoma. The spleen was enlarged to about five times the normal size and contained whitish masses. Microscopically the spleen, and the liver also, were found to contain minute tubercles. A hard, fibrous mass situated at the back of the upper part of the abdomen and displacing the stomach and liver forwards, had microscopically the appearance of chronic hard lymphadenoma.

CASE II.

A boy, Roger S., aged 8 years, suffered from typical Hodgkin's disease (lymphadenoma), which involved the cervical lymphatic glands and the spleen. In 1902 he was under the care of my colleague Dr. Karl Fürth, who has kindly allowed me to refer to the case. The disease, which was supposed to have commenced about three years earlier, was apparently diminishing under arsenical treatment, when in December, 1902, he developed signs of pneumonia (dullness and bronchial breathing at the base of the left lung) accompanied by only slight fever. The arsenic was discontinued. The boy had likewise typical herpes zoster on the right side of the chest and a generalized eruption of minute vesicles on the trunk, possibly due to arsenic. This was followed by a good deal of desquamation, especially on the palms of the hands (? arsenical).

The boy seemed fairly well when he left the hospital in January, 1903. But he did not live long.

CASE III.

A boy, Freddy J., aged 7½ years, was admitted under my care in June, 1905, for chorea minor. The case had a special interest of its own, inasmuch as the patient was left-handed and the right half of his head was distinctly bigger than the left half. The choreic trouble, which was specially marked in the left upper extremity, was temporarily associated with loss of speech ("choreic aphasia"). Auscultation of the heart showed a slight mitral systolic murmur, when he left the hospital in September, 1905.

In the following year he was readmitted for slight chorea, and whilst under arsenical treatment, on March 6th, 1906, he developed pneumonia of the lower part of the left lung (impairment of resonance and crepitation) with considerable fever. There was no fever after March 13th, but crepitation could be heard over the affected lung for some days more. The pneumonia seemed to be of a mild type. There was very little cough and no pain.

CASE IV.

A little girl, Anna G., aged 4 years, when being treated, during 1910, with liquor arsenicalis for a lichen-like affection, developed acute pneumonia (with dullness and bronchial breathing) at the base of both lungs. There was considerable fever, but the pneumonic signs cleared up very well. There was for a time in this case a diffuse cutaneous erythema, which may have been of arsenical origin, and was followed by slight general desquamation and brownish pigmentation.

CASE V.

A girl, Theresa E., aged 14 years, who was undergoing radium treatment and was taking arsenic and iron for an acute and malignant type of Hodgkin's disease (lymphadenoma). A lymphatic glandular swelling had been first noticed on the left side of the neck in January, 1912, and, after operative removal of this in May, 1912, a fresh glandular tumour had rapidly formed on the same side of the neck. Radium treatment was tried in August, and was followed by great diminution of the swelling in the neck, but soon afterwards a striking enlargement of the spleen, and probably of intra-abdominal lymphatic glands also, occurred. She was losing ground in spite of treatment by arsenic and iron and the radium therapy, when, on December 5th, 1912, I saw her with Dr. Smulian for acute lobar pneumonia of the lower part of the left lung (dullness, bronchial breathing, and some crepitation) with moderate fever. The respirations were 46 a minute, and the pulse 120. The pneumonia had apparently commenced with general convulsions three days previously, and it seemed (considering the patient's bad general condition) to have come as a "terminal" infection. However, on the next day the patient was already recovering from the pneumonia, and in a few days she was able to leave her room and go out for drives. The lymphadenomatous disease nevertheless rapidly progressed, and she soon died.

In the foregoing cases the patients were all young, and the recovery from the pneumonia was excellent, even when the general condition, as in the last case, was extremely bad. There was little in the way of distressing cough or pain. It seems to me that arsenic may possibly predispose some persons to an attack of (? pneumococcal) pneumonia, just as it is acknowledged to predispose some individuals to an attack of herpes zoster, which is perhaps, like pneumonia, a disease of infectious (microbic) origin. On the other hand, my cases are too few in number to draw any certain conclusions from, and I do not know that any similar cases have been described in the literature on the effects of arsenic, or in that on pneumonia. It must not, however, be forgotten that it is only comparatively recently that herpes zoster has been acknowledged to be in some cases a consequence of the ingestion of arsenic, as a medicine or otherwise—as, for instance, as a contamination of beer in the English epidemic of arsenical poisoning in 1900.

I think it highly probable that cases of pneumonia similar to those which I have recorded will soon be observed by others amongst children and young persons undergoing arsenical treatment. If other cases should be found to confirm my suggestions, I would be tempted to think that the arsenic, whilst predisposing towards pneumonia, must also exert a favourable effect on the reaction of the body towards the disease—that is to say, that when pneumococcal pneumonia occurs in patients who are being treated with arsenic the pneumococcal infection is quickly

*A paper read at the Medical Section of the Royal Society of Medicine on January 28th.

and successfully resisted. Perhaps later on some arsenical drug like salvarsan or neo-salvarsan will be found to have a beneficial effect in pneumococcal pneumonia or other pneumococcal infections, and it might be worth while to undertake experiments with mice or rabbits in this connexion—that is to say, one might try the effect of arsenical preparations, in regard to experimental pneumococcal pneumonia, in those animals.

THREE CASES IN MIDWIFERY PRACTICE.

BY

JOHN REID, B.A., M.D., B.CH., B.A.O.,

LATE SENIOR HOUSE-SURGEON, SOUTH INFIRMARY, CORK.

THE following unusual midwifery experiences occurred in my practice within four weeks, from the middle of March to the middle of April, 1912, and I think that as the material results are so good, and as one child born with asphyxia pallida recovered, it is worth while to publish the cases.

CASE I.—*Rupture of Uterus with Extrusion of Intestines.*

This case I saw with my colleague Dr. Meade, of Ballymartle. The patient, who had had two difficult instrumental labours and two miscarriages, had been in bed for a couple of days, and for the last twenty-four hours was passing matter from the vagina. She had also some abdominal pain. As she was but six months pregnant she did not suspect labour. Getting out of bed one morning at 10 o'clock to pass urine, the baby was expelled into the vessel. She got back into bed. On Dr. Meade's arrival he found three coils of intestines hanging out of the vagina, as well as the cord. Having disinfected his hands and arm and the intestine, he returned the gut and at the same time turned out the placenta, which had been retained in the uterus. At this time the patient was collapsed and was given hypodermic injections of strychnine. I saw her next afternoon, when she was vomiting severely and had well marked peritonitis. The pulse and temperature were high, and the tenderness over the abdomen extreme. The prognosis was most grave. On the third day a small piece of placenta was expelled. On the fifth day, when I saw her again, her condition was easier. After five days she began to improve, and in three weeks was well on the road to recovery.

Her magnificent recovery was due to her own splendid constitution and the care taken of her by Dr. Meade, who had so carefully put back the intestines, and had adopted a semi-Fowler position, as well as gentle douching twice daily. She had hypodermic injections of strychnine twice a day, quinine and digitalis in pills thrice daily, and magnesium sulphate every third day. With the exception of the most gentle douching, no examination or manipulation of the genital passage was attempted, as we considered perfect rest of the parts gave her the best chance. What the condition was which allowed the intestines to protrude is difficult to tell. Probably she had an abscess in the posterior wall of the womb, low down, or else some collection of pus in Douglas's pouch, and the labour pains driving down the head of the child broke the walls of the sac, and so the intestines protruded. Of course, the child (which was under six months) died shortly after birth.

CASE II.—*Myelocele and Meningo-encephalocele.*

This was a case of breech presentation, seen with Dr. Hennessy of Bandon. Chloroform was administered and the breech was extracted in the usual manner with extreme difficulty, owing to contracted pelvis. The arms were next extracted, but it was wellnigh impossible to remove the head. We noticed on the centre of the back a myelocele, and it was our intention to cut across the neck with a scalpel and introduce a catheter into the cranium, as we considered it might be a case of hydrocephalus. Whilst considering the advisability of doing this, and yet wishing, if possible, to extract a living child (as the only other one was stillborn), the head came away with a strong pull, and to our surprise showed an enormous ruptured meningo-encephalocele. Here was an example of both a myelocele and a meningo-encephalocele. The uterus was thoroughly douched out with hot creolin solution, and the woman recovered in the usual time without any abnormality of temperature or pulse. I have arranged with her if she becomes pregnant again to have Caesarean section performed.

CASE III.—*Asphyxia Pallida.*

A primipara was seen by me after she had been in labour for thirty-six hours. I found membranes ruptured, head presentation and prolapse of cord. I found afterwards a marginal insertion of an ordinary length of cord, and also that there was a history of curettage and wearing of a pessary for retroflexion, and a condition of sterility that had lasted for some years, so that there was probably some laxity of uterine muscle. The cord was pulsating and the fetal heart fairly strong. As the membranes were ruptured I considered the best chance for the child was rapid delivery, having warned the father that the child would undoubtedly be dead. With considerable difficulty I extracted by the aid of axis traction forceps, a male child, of normal size, in a condition of absolute asphyxia pallida. It was white and flaccid, and showed no attempt at respiration. I cleared the mouth of mucus, rubbed it with brandy, and tried artificial respiration by Schultze's method, and plunged it into hot and cold water. Finding these methods useless, I sterilized a plated oval female catheter, slightly curved, having five holes on either side, and hooking my left forefinger round the epiglottis, I gently passed the catheter into the child's trachea, and inflated the lungs, ten or twelve times a minute as near as I could judge. After fifteen minutes I could see the child's heart beating, and there was an occasional gasp; then the gasps became more frequent, and after three-quarters of an hour it was breathing well and quietly, but exceedingly weak in its cry. He is now a fine healthy boy, to the great joy of his father and mother.

In Holt's *Diseases of Infancy* (p. 71) it is stated that inflation of the lungs is not usually of much general value, but is sometimes successful, and he recommends a soft catheter or the laryngeal tube of Ribemont. I venture to think, however, that a sterilized metal catheter such as I have described, if inserted gently, will meet the conditions.

Some months previous to this case I used similar treatment in another case of asphyxia pallida, but without success. I could see the heart beating vigorously, and the child would give some gasps, then the heart got weaker, and finally, after keeping the heart going with the help of my assistant for an hour and a half, it gradually weakened, the gasps ceased, and death ensued.

As the cases of these two children seemed to me to be interesting from a physiological point of view, I wrote to Professor Halliburton (to whom my sincerest thanks are due) as to why one child died and the other recovered. Since increasing venosity stimulates the respiratory centre we had here an excess of CO_2; why, then, did my expired air, containing a large amount of CO_2, produce a stimulation of the respiratory centre? Professor Halliburton's reply is as follows:

> Your cases of asphyxia pallida are very interesting. I imagine that in your second case the child was practically dead from deprivation of oxygen before you began the blowing in of air. The respiratory centre is very sensitive, and I would imagine that the few gasps you got were due to the oxygen supplied by your own expired air, and not to the CO_2 in your expired air. The child would already, owing to lack of oxygen, be loaded with CO_2, and beyond a certain stage this gas is a poison. The pallor would be due to stoppage of the circulation and constricted blood vessels; hence no blueness. But I suspect the blood was very venous nevertheless, and I cannot therefore think that any acapnia was present. In the first case the recovery due to oxygen supply was accomplished because the child to start with was only say 75 per cent. and not 99 per cent. dead.

The explanation given by Professor Halliburton is a great help, and it is a great incentive to know the reason why one is doing a certain action, and shows that by keeping up the treatment for a considerable time valuable infant lives might be saved. No stillborn child should ever be condemned to its grave without this method being effectually carried out, for assuredly success will many times follow

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THE report presented to the annual meeting of the Royal Bath Hospital and Rawson Convalescent Home, Harrogate, on January 30th, announced the resignation of Dr. Charles Gibson, who for twenty-one years had been an honorary medical officer to the hospital, and during that period had rendered it incalculable services. In moving the adoption of the report Major Dent, the chairman, observed among other things that it would be seen that very few subscriptions had been withdrawn owing to the National Insurance Act, and he hoped in connexion with institutions like that there would be no falling off. Whatever happened in other institutions the Insurance Act did not affect an institution like theirs, and it was essential that charitably disposed people and workpeople should continue liberally to support it. Certain alterations were made in the rules, and Dr. Hobson and Dr. Gibson were appointed honorary consulting physicians, Dr. Hinsley Walker and Dr. Johns were appointed honorary medical officers, and Dr. G. L. Kerr Pringle and Dr. David Brown were added to the honorary medical staff.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

LARGE BROAD LIGAMENT CYST WITH OVARIAN DERMOID ON THE OPPOSITE SIDE.

A WOMAN aged 35, married thirteen years, was sent to see me by Dr. Ford, of Forest Gate. She had never been pregnant. She had menstruated regularly—on the last occasion three weeks before I saw her; during the previous six months the loss had been rather more than usual, and she had complained of a feeling of fullness about the abdomen, with pain occasionally in the cardiac region. The abdomen, which was markedly enlarged, was occupied by a swelling which was located more especially in the left abdomen, and extended from the pelvis to the level of the lowest rib. Fluctuation was easily elicited. The tumour was ovoid in shape. The cervix uteri was very high, almost on a level with the upper border of the pubic bone. The body of the uterus could not be clearly defined. The vaginal roof anteriorly and to the left of the cervix was slightly depressed by a portion of the abdominal swelling. Through the right fornix was felt a small firm swelling, which was the right ovary enlarged to nearly four times its natural size.

The abdominal cyst was tapped and thereafter enucleated from the broad ligament. It contained typical parovarian fluid. There was no trace of the left ovary. The right ovary was also removed. It was of the size of a small Tangerine orange, and was a dermoid cyst containing bone, hair, and sebaceous material.

London, W.C. JAMES OLIVER, M.D., F.R.S.Edin.

THE ASSOCIATION OF BAD TEETH WITH LEAD POISONING.

IN lead works one comes across many men who are pale and badly nourished, some of them languid and disinclined to work. Occasionally they complain of epigastric pain and irregularity of the bowels. Finding them with a blue line generally surrounding carious teeth, many medical men notify these cases as instances of plumbism.

During the last year I have ordered such men to have the teeth extracted, with the result that all the signs and symptoms disappeared, and instead I found them with a healthy colour on the cheek, their nutrition improved, and their capacity and desire for work everything that could be desired.

It is important to lay stress on the recognition of this connexion. It is important to the men who are prejudiced for other work, to the employers who have to pay compensation, and to the neighbourhood, should the industry be affected financially in consequence of an erroneous diagnosis.

This connexion of carious teeth and plumbism is important, because with such ever-present pyogenic foci pouring poison into the stomach, its mucous membrane becomes inflamed, and thereby offers a greater absorbing surface to the lead, especially if it be converted into lead iodide by the internal administration of calcium or potassium iodide.

Iodides are strictly contraindicated in the treatment of plumbism, and should never be given. The best treatment is by mean of calcium permanganate, which cures the gastric inflammation.

The pyogenic infection is vastly more dangerous than the inhalation of lead dust.

Swansea. G. ARBOUR STEPHENS, M.D.

THE APPLICATION OF TAXIS.

THE following plan I find useful: The last case I tried it in was an elderly male with a small, tight femoral hernia. I sit close to the bed, place the patient's knee on the side affected over my corresponding shoulder, and get some one to steady the foot. One hand passes between the thighs, the other is on the outside of the thigh. I then tilt my shoulder up, raising the patient's pelvis, and apply taxis in the usual way. The method is very comfortable for the practitioner.

Bamburgh, S.O. JAMES G. MACASKIE.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

CENTRAL LONDON SICK ASYLUM, HENDON.

SPONTANEOUS FRACTURES; PLATING; NON-UNION; SALVARSAN TREATMENT; SECOND PLATING; RECOVERY.

(By BRIAN METCALFE, M.R.C.S., L.R.C.P., Assistant Medical Officer.)

THE patient in the following case, a man aged 40, was stepping off a stationary tramcar on December 22nd, 1911, when he felt something give way in his right arm. There was no pain, but the arm immediately became powerless. He went straight to a hospital, and was admitted at once. He remained an in-patient for five weeks, the arm being placed on an internal angular splint, which was only removed for the purposes of *x*-ray examination. At the end of five weeks he was discharged to attend as an out-patient.

State on Examination.

He then entered the Central London Sick Asylum, the arm being still on the splint, and his condition: Fusiform swelling about the lower third of the right humerus. Crepitus easily obtained, the fragments being extremely mobile, movements caused no pain, *x*-ray examination showed an almost transverse fracture of the lower third of the humerus, no overlapping, no comminution; a good deal of callus was present. The patient gave a definite history of syphilis, for which he had received only spasmodic treatment. There was a healed scar on the corona, and four years previously he had been treated in Hendon Sick Asylum for gummatous periostitis of the left clavicle and left parietal bone; in both situations there were now present soundly healed and depressed adherent scars.

Treatment.

The arm was placed in plaster-of-Paris for six weeks, and iodide and mercury given internally, and at the end of this period there was still no union.

On March 29th, 1912, the fracture was exposed by an incision on the outer side of the arm—a false joint with a thick capsule, and great excess of callus were found. The joint was excised and the fragments united by one plate and four screws placed on the external surface of the bone; an internal angular splint was applied. The wound healed by first intention; the splint was removed at the end of a month; there was still no union. A skiagram showed good apposition, some callus, and the plate holding well.

The patient was now put on thyroid extract, 5 grains twice daily. The iodide was increased to a 100 grains per diem; Bier's bandage was applied for three hours twice a day, there was also daily massage. After two weeks of this treatment the patient took his own discharge, there being still no signs of union.

On May 29th, 1912, he returned to the Hendon Sick Asylum, meanwhile having attended a hospital as an out-patient. During the whole of this time the arm was kept on an internal angular splint, but there was still no union. The screws were firm in the upper fragment, but loose in the lower one. On the right buttock there was a typical syphilitic rupia.

Primary Union after Salvarsan Treatment.

On June 6th, 1912, the patient was given 0.6 gram of salvarsan intravenously, the median basilic vein being deliberately exposed and opened. I have used this method on fifty-eight occasions, and prefer it to attempting to directly plunge a hollow needle into the vein. By June 13th, the rupia having healed, the old incision was reopened, and the former plate and screws removed; another false joint was found to have formed, very little callus was present, the ends of the fragments were excised and two plates inserted, one anteriorly and one externally. The arm was put up on an internal angular splint; primary union took place, and bony union was firm and complete at the end of four weeks.

REMARKS.

I heard from the patient on November 15th, five months after the second plating, saying that his arm was strong and well, and that he had never felt better in his life.

It was intended to give the patient two further doses of salvarsan, but as he felt so well he was averse to receiving another injection. There can be little doubt that this was a case of spontaneous fracture due to a gumma, and I think that it shows the important part that salvarsan took in the ultimate cure of this fracture, as the patient throughout was treated by potassium iodide in increasing doses with no effect. I am indebted to Mr. Hopkins, F.R.C.S., Medical Superintendent, for permission to publish the above notes.

Reports of Societies.

ROYAL SOCIETY.

Thursday, February 6th, 1913.

Sir Archibald Geikie, K.C.B., President, in the Chair.

Resilience of the Arterial Wall.

In a paper on the influence of the resilience of the arterial wall on blood pressure and on the pulse curve, Drs. S. R. Wells and Leonard Hill, F.R.S., stated that the form of the pulse curve and the systolic and diastolic pressure (measured by the sphygmomanometer in the case of man) were modified very greatly by the conduction of the pulse along any particular artery. The conduction varied with the resilience of the arterial wall. An artery which was contracted, and therefore more rigid, conducted the systolic crest almost with undiminished amplitude from the heart to the peripheral vessels, and there was in such an artery a wide difference between the systolic and diastolic pressure. In a relaxed, resilient artery, on the other hand, the systolic wave expanded the wall of the artery, and part of its energy was stored up as potential energy in the wall. As this came into play during diastole and the systolic wave reached the peripheral vessels in diminished form, the height of the diastolic wave was approximated to that of the systolic. The arteries were controlled so as to bring about one or other of these conditions at the periphery—a hammer-like pulse with big difference between systole and diastole, or a pulse with small difference and a more uniform mean pressure. The evidence for these conclusions had been drawn both from the investigation of thin-walled rubber tubes (specially made) and of arteries.

Ganglion in the Human Temporal Bone.

Mr. A. A. Gray reported the occurrence of a ganglion hitherto undescribed in the human temporal bone, below and in front of the stapedius muscle. In the specimen in which it was discovered the ganglion was comparatively large, but it was thought probable that considerable variations in this respect occurred in individuals. As far as present investigations show the ganglion was associated with two nerves—the facial nerve and Arnold's nerve—but it was possible that fibres from other nerves might enter it. It was irregular in shape, finger-like processes projecting from it into channels in the surrounding bone. It contained on the whole a rather large proportion of fibres relative to the number of nerve cells. The majority of the nerve cells were multipolar, but occasional bipolar cells were found.

The Action of Adrenin on Veins.

Messrs. J. A. Gunn and F. B. Chavasse reported the results of a research on this subject. They found: (1) That the action of adrenin upon ring preparations of veins remote from the heart was to diminish their calibre as in the case of arteries; the veins, therefore, probably contained veno-constrictor nerve fibres from the thoracico-lumbar sympathetic system. (2) That the action of adrenin on quiescent rings from the superior vena cava near the heart was to cause them to beat rhythmically and powerfully. (3) That (*a*) the accelerator-augmentor nerve supply of the heart and (*b*) the rhythmically contractile tissue extended up the superior vena cava for at least 6 to 8 mm. from the veno-auricular junction in the heart of the sheep. (4) That the induction by adrenin of rhythmic contraction in the quiescent superior vena cava seemed, on the whole, in accordance with the myogenic theory of mammalian heart rhythmicity.

Treatment of Trypanosomiasis and Yaws by Antimony.

Captain H. S. Ranken, R.A.M.C., in a preliminary report on the treatment of human trypanosomiasis and yaws with metallic antimony, stated that intravenous injection of metallic antimony in a fine state of division was a therapeutic measure applicable on a large scale to the treatment of human trypanosomiasis. A considerable number of cases had been so treated, and in a further series combined treatment was employed, salvarsan or atoxyl being given in addition to the antimony. As a routine dose, 1 grain of antimony was given in 4 oz. to 6 oz. of physiological salt solution. In the great majority of cases treatment brought about considerable improvement, as evidenced by disappearance of trypanosomes from the blood and lymphatic glands, improvement in nutrition, mental state, etc. It was not yet possible to determine the ultimate results of treatment. The symptoms following treatment were described, and it was stated that in certain individuals hypersusceptibility existed. Reference was made to the exceedingly rapid trypanocidal action of antimony and to its effect on the leucocytes. The preparation was also used in ten cases of yaws, and all were cured. The usual course of treatment was three or four doses.

Extrusion of Granules by Trypanosomes.

Major W. B. Fry and Captain H. S. Ranken described some further researches on the extrusion of granules by trypanosomes and on their further development. Two classes of granules were mentioned: (*a*) Those representing probably stored food material; and (*b*) those of nuclear origin and character, but the paper dealt with the latter only. The mechanism of extrusion as observed in human and animal varieties was described, and the influence of drugs and other effects discussed. A description of the free granule and its after-development and fate was given. Many of the observations were made on the parasite in the living state, but the paper also contained notes on fixed and stained specimens, and Mr. H. G. Plimmer, F.R.S., added a note on a new method of blood fixation.

MEDICAL SOCIETY OF LONDON.

Monday, February 10th, 1913.

Sir W. Watson Cheyne, President, in the Chair.

Early Operation in Appendicitis.

Mr. Edmund Owen opened a discussion on early operation in appendicitis. His remarks are published in full in this issue of the Journal (p. 321).

Mr. W. H. Battle did not think that any one with experience of appendicitis in its acute form could deny that operation including removal of the appendix at the commencement of the attack was advisable, and that it constituted the only plan of treatment that could be regarded as certain to yield adequate results in a large series of cases. To advise a patient to submit to operation was the counsel of perfection. If the operation were deferred, the patient lost very much and gained little by his refusal to submit to operation in the first instance. Early operation was not only life-saving, but also the period of illness was shortened, and if done quite early the wound could be closed without drainage, and danger of subsequent hernia was obviated. He said that he was not an advocate for indiscriminate operation. One should always endeavour to diagnose the state of the appendix, but the correct clinical estimation of the case was of greater value. Indiscriminate operation in every case and at any period in an acute attack would be found almost as disastrous as no operation at all.

Mr. C. P. Childe said that he was a warm advocate of operation in appendicitis at the earliest available moment, and he considered that any counsel of delay or any attempt to discriminate between cases that should be operated upon and those which might be left to an interval operation was a putting back of the clock in the treatment of the disease. His reasons were based on 700 operations. The more extensive one's acquaintance with appendicitis became, the more one became convinced of the unreliability of any symptoms as guides to the immediate or future safety of the patient. He considered he would be acting with an assumption of knowledge he did not possess if he tendered a patient suffering from appendicitis advice that he might safely await the removal of his appendix until a subsequent date.

Mr. G. Grey Turner also spoke strongly in favour of early operation. His results of a total of 681 operations bore out his contention. Of these the total mortality was 35, or 5.13 per cent. In 43 cases of acute appendicitis without peritonitis no deaths had occurred. In 130 of acute appendicitis with localized peritonitis only 3, or 2.3 per cent.

Mr. GEO. R. TURNER said that the results of operation for appendicitis at St. George's Hospital had shown considerable improvement during the last four years. This he ascribed to the cases being sent earlier. In his last 100 consecutive cases he had had only 1 death, and had had 62 consecutive cases without a death. He could see no use in waiting. He advised operation at every stage so long as the patient was not moribund. There was practically no risk whatever in the early stage.

Mr. CRAWFORD RENTON regarded the paper as epoch-making. Early operation was the only proper treatment in acute cases. He had always operated at once for many years. The mortality of immediate operation was about 2 per cent.; if deferred, 20 to 40 per cent.

Major HULL, R.A.M.C., said that it would be admitted generally that all early cases should be operated upon before pus formation took place. If this were done the mortality would be practically *nil*. He regarded those cases due to a pure *Bacillus coli communis* infection as less serious, and as accounting for the majority of the cases where recovery without operation occurred.

Mr. W. H. CLAYTON-GREENE said he had read a paper on the subject ten years ago, and considered that the high mortality was due to delay. His opinion of the value of early operation in limiting the mortality and preventing complications was confirmed by the attitude of many physicians, who had become more surgical even than the surgeons.

Mr. A. H. BURGESS also spoke in favour of early operation.

Mr. EDMUND OWEN briefly replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, February 5th, 1913.

Mr. J. M. COTTERILL, President, in the Chair.

The Relation of the Radiographer to the Physician and Surgeon.

DR. A. MCKENDRICK read a communication on this subject. He said that two alternatives offered themselves in a discussion of this question: (1) Where the radiographer merely occupied the position of an *x*-ray photographer; and (2) where he was regarded as a consultant in the same sense as the pathologist and the ophthalmologist. The status of the radiographer in various Continental hospitals was generally that of the latter alternative, and in certain British hospitals only a written report was sent out, the plates being retained, classified, and stored in the *x*-ray department. The question was not new, having been discussed at several Continental congresses, and it was still unsettled. Mr. WALLACE said that a report alone by the radiographer who was not acquainted with the case would often be of little value. Further, it sometimes happened that the best radiograms were produced by men without any medical education. At the same time he was always glad to have the assistance of the radiographer in the interpretation of a plate. Dr. CHALMERS WATSON said that unsatisfactory plates were often due to inadequate instructions given by the physician and surgeon. Mr. STRUTHERS said the primary duty of the radiographer was to take a good plate. If he were to assume the position of a consultant, he would require to be equipped not merely with technical skill, but with a thorough knowledge of the other means of diagnosis. Dr. MCKENDRICK replied.

Joint Tuberculosis.

Mr. JOHN FRASER said that into the anatomy of a joint there entered the articular ends of the opposing bones covered by articular cartilage, in the child usually built up of epiphysis, epiphysial cartilage, and metaphysis. The synovial membrane was composed of a connective tissue lined with flattened cells. A number of blood vessels ramified in its deeper parts, and were specially abundant at the joint reflection, where they formed the circulus vasculosus. According to the attachment of the joint ligaments, the circulus vasculosus lay in relation to the epiphysis or the metaphysis; for instance, in the elbow-joint it lay in relation to the metaphysis, in the knee-joint in relation to the epiphysis. From the circulus vasculosus vessels entered the underlying bone. Perivascular lymphatics accompanied the circulus vasculosus, and also entered the bone. When tubercle attacked a joint, changes became evident in the synovial membrane, the articular cartilage, the blood vessels, and the neighbouring bones. Mr. Fraser described these changes at full length with the aid of lantern slides. Professor CAIRD, in discussion, said that he had often been struck by the determining influence of the position of the circulus vasculosus in the site of tubercle in a joint. The appearance of the endarteritis was very like that in syphilitic vessels. Mr. STILES alluded to the difficulty of the treatment of bone and joint tuberculosis in hospitals owing to lack of space, and defended the use of radical operation. In the apportioning of public funds to the problem of tuberculosis, he made a strong plea for a fair share for surgical tuberculosis. Dr. J. MILLER said that in a recent series of 60 cases of tuberculosis not a single bovine strain had been isolated. Endarteritis of the kind described was also seen in pulmonary tuberculosis, and in the large arteries near tuberculous joints. Mr. DOWDEN spoke of the prevalence of surgical tuberculosis in China and Labrador, where cow's milk was not used. He would be curious to learn the strain of bacillus present in the virulent senile tuberculosis of bones and joints. Dr. MCKENDRICK pointed out the similar *x*-ray appearances of bones in rheumatoid arthritis and tuberculosis. Dr. CHALMERS WATSON alluded to the marked endarterial changes in rheumatoid arthritis—a chronic toxaemia due to the pathological action of bacteria normally resident in man. Dr. C. GUTHRIE spoke of the importance of environment in predisposing to or protecting from tuberculosis. The PRESIDENT pointed out the great need of a convalescent home on a large scale for cases of surgical tuberculosis. Mr. FRASER replied.

LIVERPOOL MEDICAL INSTITUTION.

Thursday, January 30th, 1913.

Dr. LLOYD ROBERTS, Vice-President, in the Chair.

Specimens.

AT the fourth pathological meeting of the session the following specimens were shown and described:—Mr. ARTHUR EVANS: *Adenoma of the thyroid.* Mr. KEITH MONSARRAT: (1) *Hydatid cyst of the kidney* which had ruptured into the renal pelvis; (2) *Alveolar cyst;* (3) *Goitre with cystic and myxomatous degeneration*—there were in this case some clinical symptoms of myxoedema; (4) *Carcinoma of the pylorus;* (5) *Carcinoma of the colon* (two cases); (6) *Chondrosarcoma of the breast*, which was described as probably peritheliomatous in nature. Mr. THELWALL THOMAS: (1) *Carcinoma of the caecum;* (2) *Oesophageal pouch;* (3) *Epithelioma of the scrotum;* (4) *Chondroma of the nasal septum;* (5) *Epithelioma of the tongue;* (6) *Epithelioma of the forearm.* Dr. NATHAN RAW: (1) *Secondary sarcoma of the dura mater;* the primary growth was in the choroid of the eye; (2) Two uteri with *Carcinoma of the cervix* which had been removed after Caesarean section. Mr. THOMAS, Dr. NATHAN RAW, Dr. R. E. HARCOURT, and Dr. WILLETT took part in the discussion.

Fulminating Pneumonia.

Professor ERNEST GLYNN read a note on fulminating pneumonia. He gave notes of 15 cases with 4 deaths from a public institution; 2 died in seven hours, 2 in thirty hours. All the cases occurred in children. In the most rapid cases there was no lung consolidation; pneumococci were demonstrated by inoculating mice, and by microscopical sections. Photomicrographs illustrating the lesions in the lungs and kidneys were shown, the latter being due to the virulence of the toxaemia. Professor BEATTIE, Dr. RUNDLE, and Dr. STALLYBRASS discussed the note, and Professor GLYNN replied.

Some Studies in Anaphylaxis.

Dr. MURRAY BLIGH read a paper on this subject, based on experimental work carried out with Dr. Blair Bell. He drew a comparison between anaphylaxis and serum sickness; and reference was made to heredity, to passive anaphylaxis, and to anaphylaxis *in vitro*. On the principle of the reaction of passive anaphylaxis, an attempt was made to devise a method of determining whether a given individual were sensitive already which would be applicable to the diagnosis of cancer and other diseases. The inquiry was commenced by sensitizing a group of animals, according to orthodox methods, with the object

of observing the development of the symptoms and sequelae so graphically described by others. Anaphylaxis was not obtained. Several varieties of antigen, in varying doses, repeated at the end of varying incubation periods, were injected into rabbits and guinea-pigs. Eighty-six consecutive experiments were performed without the development of a symptom that could be attributed to anaphylaxis. The fact of anaphylaxis was not disputed, but the conclusion was drawn that it was a phenomenon more difficult to obtain than to avoid. Dr. WAKELIN BARRATT thought that the author of the paper was well advised in publishing the results obtained; and it was much to be desired that the conditions of the production of experimental anaphylaxis should in all cases be accurately recorded. Dr. GELAIRE said that the phenomena which seemed to be sufficient to explain that anaphylaxis formed an albumin—anti-albumin—reaction were, to his mind, not yet definitely determined. If it were true all anaphylactogens ought to be of an albuminous character, such as animal or vegetable albumin, or the albumin of bacteria, etc. But since they knew that anaphylaxis could be brought about by the combined action of antigen-antibodies-complement, they should bear in mind that antigen and antibodies were not all pure albuminous substances. That they were lipoids was shown in the syphilis reaction, in echinococcus disease, and in the alcoholic extracts of tubercle bacilli, etc. Anaphylaxis could be produced by glycogen, peptone, trypsin, saponin, sodium oleate, etc. As regards the quantity of serum injected, he said that bigger quantities had been used by those who were able to produce anaphylaxis than had been employed by Dr. Bligh and himself. He thought that those observers who had obtained positive results with very small quantities of serum had probably been using for the second injection serum from the same animal as that from which the serum for the first injection had been taken. The freshness of the serum was of importance, as the amount of fibrin ferment varied with the time the serum had been kept. The susceptibility of an animal to anaphylaxis depended both on the species of the animal and the kind of serum used. Pigs, for instance, could not be made anaphylactic with horse serum, and the results with rabbits were not constant. On the other hand, there seemed to be something in the serum which prevented anaphylaxis altogether. Extracts of organs produced anaphylaxis, but on adding fresh serum of the same species anaphylaxis could be prevented. Dr. Gelaire then related some of his own experiments, and explained his conclusions. Since the serum of animals rendered anaphylactic contained much less complement than before the injection, he thought research as to the cause of anaphylaxis should be directed to the investigation of the serum of the injected animal. Dr. T. R. BRADSHAW thanked Dr. Bligh for his interesting paper, which dealt with a subject which appeared to be of great practical importance at a time when serum-therapy was largely employed, and dwelt on certain points in connexion with the subject which were difficult to comprehend.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OPHTHALMOLOGY.

Wednesday, February 5th, 1913.

Sir ANDERSON CRITCHETT, President, in the Chair.

Specimens.

MR. G. COATES showed a case of *Congenital mesoblastic strand* adhering to and penetrating the cornea. Mr. A. RUGG GUNN showed a case of *Persistent hyaloid artery* with massive white formation obscuring the optic disc. Mr. A. S. COBBLEDICK showed a case of *Congenital deformity of the inner canthus.* Mr. J. B. LAWFORD exhibited a case of *Disease in the region of the pituitary body.* The patient showed no definite evidence of acromegaly. The PRESIDENT showed a case of *Kerato-iritis* in which he had performed peritomy; the whole of the vascular conjunctiva, which had been very much thickened, had greatly improved.

Resumed Discussion on the Physiology of Intraocular Pressure.

Mr. MARTIN FLACK, in resuming the debate, criticized the scheme submitted to the last meeting by Professor Starling, as it did not take account of any capillary bed and the resistance due to it; thus the conditions obtaining in the eyeball were not adequately represented. Moreover, to hypothecate for the vessels rubber, and for the fluid, water, did not establish a parallelism with actual conditions. He proceeded to elaborate the argument which Dr. Leonard Hill submitted in his opening, and said that Dr. Hill's work on the circulation of the brain had never yet been proved to be wrong, although it was published a number of years ago. Admittedly the eye was not quite rigid, but it was sufficiently so for physiological purposes. When a skull was trephined, and the rigidity of the skull thereby modified, it did not interfere with the cerebral circulation. In Dr. Hill's and his own view, the tissue fluid was maintained not by any filtration pressure due to the *vis a tergo*, but to the pulsatile expansion and shrinkage of organs, and the expressive action of both intrinsic and extrinsic muscles, as well as by changes in posture, gravity, etc. Mr. THOMSON HENDERSON (Nottingham) declared that his views on the physiology of intraocular pressure were entirely dominated by the splendid work of Dr. Leonard Hill on the intracranial pressure. He (the speaker) maintained that the intraocular pressure was not a question of volume, but that it stood and varied with the intraocular venous pressure. Some of the views disregarded the fact that the vessels were embedded in a loose tissue stroma, which was in open communication with the angle of the anterior chamber. Therefore the ciliary epithelium could not act as a mere passive filtering membrane, because the pressure on both sides of it was the same, and if fluid did escape from the vessels it would make its way direct into the angle of the anterior chamber. He exhibited sections of eyes of different animals, and submitted that the anatomical conditions about the angle of the anterior chamber were such as to absolutely preclude any idea of filtration of aqueous. He had now a collection of 13,000 sections of eyes, mounted serially. Mr. HERBERT PARSONS said he could not understand the antipathy to the filtration idea by Dr. Hill and his colleagues, who seemed to introduce a very difficult method of physico-chemical influence to account for processes which were explicable on simpler grounds. He could not see anything in the present discussion, so far, to cause him to modify, except in questions of terminology, the views he expressed in his work on the pathology of eye conditions. He proceeded to comment on weak points in Dr. Hill's experiments, and to argue that, the walls of the globe not being rigid, unless the animal were curarized in the experiments, there was enormous pressure exerted by the extrinsic muscles. He was the first to show that the increased pressure produced on stimulating the peripheral end of the cervical sympathetic was due to retraction of the unstriped muscle in the orbit. He did not think the consideration of the mode of production of accommodation was germane to the present discussion. Mr. RAYNER BATTEN demonstrated his views on intraocular pressure by a series of ordinary rubber child's balloons. Mr. GREEVES pointed out that Coster found, in his experiments, that there was a definite increase of volume when the intraocular pressure was raised, and he had himself done a similar experiment with fresh pig's eyes. Professor STARLING and Dr. LEONARD HILL then replied in detail on the whole debate, and were heartily thanked by the Section.

SECTION OF ANAESTHETICS.

Friday, February 7th, 1913.

Dr. J. BLUMFELD, President, in the Chair.

Nitrous Oxide in Major Surgery.

MR. H. M. PAGE noted, at the beginning of this paper, that a revival in recent years of the interest taken in anaesthesia was attributed to Dr. Crile's work on shock. Mr. Page desired to suggest further investigation of this agent on this side of the Atlantic. The difficulties of the administration, if the surgeon was not to be hindered in his work, the strain on the anaesthetist, the cumbrous apparatus and the expense were pointed out. Against these drawbacks was placed the non-toxicity of nitrous oxide, the few after-effects and the good condition of the patient at the end of the operation, a condition which was observed in a proportionally modified degree, even when ether had been added throughout the administration,

Regulated rebreathing was strongly advocated, as the author found that it facilitated the administration without prejudice to the patient. The work of the physiologists on the subject of the loss of CO_2 and acapnia was mentioned, and especially the recent work of Yandell Henderson, and it was maintained that account must be taken of it and rebreathing carefully used, even if all Henderson's conclusions could not be accepted without reserve. Ninety-four major operations were brought forward, out of which 51 were intraperitoneal. The ages of the patients varied from 5 to 81 years. Out of the 51 intraperitoneal cases, 7 died, but none immediately after the operation, and in all the operation was severe. The special indications for the use of nitrous oxide in major surgery were: (1) Desperate cases from toxaemia or traumatism or haemorrhage, if spinal anaesthesia be not used; (2) operations on diabetics, where nitrous oxide was preferable to any general anaesthetic and to spinal anaesthesia; (3) certain genito-urinary operations. Mr. Page then turned to the details of this method. A previous injection of a narcotic with atropin was recommended, and, failing this, atropin alone. Induction should always be practised with the addition of ether. Afterwards the addition of ether should be resumed, to attain the required depth of anaesthesia rather than to push the N_2O by increasing pressure. It was stated that a tendency to cessation of respiration without toxicity, possibly due to loss of CO_2, and in other cases a true toxicity, might be met with. The most important contraindications were advanced degenerations of the heart and vessels, a marked degree of emphysema and dyspnoea or obstruction to the airway. Deaths said to be due to the anaesthetic had been reported. The author's opinion was that these dangers and deaths could be avoided by the unremitting attention of a skilled anaesthetist who has seen his case beforehand and deliberately chosen this method, and that N_2O+O_2, with or without the addition of ether, would then give the patient in certain cases an additional chance of recovery. Mr. PAGE then gave a demonstration of Dr. Teter's apparatus, recommending that a bag should be added close to the facepiece, and also showed a simple arrangement he had devised which answered fairly well and was portable. It was stated that all apparatus must allow of the employment of rebreathing. The PRESIDENT considered that Mr. Page had made out a good case for the use of gas and oxygen, and for rebreathing—at least, in very dangerous cases. He had himself in a few instances used gas and oxygen where it was essential to avoid any toxic effects, and his experience agreed with that of Mr. Page. It was difficult to reconcile the avoidance of the asphyxial element with the view that no diminution must be allowed in the CO_2 content of the blood. Mr. BELLAMY GARDNER said that in 1897 he brought forward the use of gas and oxygen for minor operations—namely, those not involving abdominal section—and in the following year Mr. Herbert Paterson used that anaesthetic in an operation lasting an hour and fifty-five minutes. Later he (Mr. Gardner) related his experiences with it for larger operations, exclusive of abdominal sections. It was many times more expensive than the older general anaesthetics, but was particularly indicated for diabetics, in which cases it was the most valuable anaesthetic available. Dr. DES VOEUX testified to the rapid recovery of consciousness and the lack of unpleasant after-effects in patients whose condition demanded extreme caution. Mr. H. E. G. BOYLE found that when gas and oxygen was the anaesthetic, and no other narcotic was given beforehand and no ether added to the gas and oxygen, it was difficult to effect relaxation of the abdominal muscles, but it was much easier to effect it with the aid of the narcotic and the ether. He had given this anaesthetic in three diabetic cases, where amputation at or about the knee was performed, and in all with success. In rectal operations it was inadvisable, as it set up spasm and opisthotonos. Dr. C. S. LOOSELY had used Dr. Teter's apparatus in 6 cases, all children, with success, but he had to use a little ether in one instance to keep up the relaxation of the muscles. Mr. ASLETT BALDWIN had the highest opinion of this anaesthesia for major surgery, especially in diabetic and septic subjects. In order to avoid opisthotonos in rectal work, he placed the patient on his side and trussed him up with a jack towel. Mr. A. L. FLEMMING (Bristol) exhibited a simplified apparatus of his own design and manufacture for giving gas and oxygen, which allowed of rebreathing. Mr. PAGE replied.

SECTION FOR THE STUDY OF CHILDREN'S DISEASES.

AT the meeting on Friday, January 24th, Mr. A. H. TUBBY, M.B., F.R.C.S., President, in the chair, there was an exhibition of clinical cases and pathological specimens. Among the exhibits were the following:—Miss A. L. KANN (for Mr. D. C. L. Fitzwilliams): (1) A case of (?) *Fibrolipoma* in a boy aged 2 years and 8 months. There were four small swellings on the back of the arm and in the axilla, that in the axilla being as large as an orange, bulging the pectoral muscles forwards. They were not fixed and felt fibrous. (2) A case of *Lymphangioma*, resembling a hernia of the lung, above the right clavicle, of a boy aged 6. It probably continued into the thorax. Dr. R. C. JEWESBURY: *Two similar unusual heart conditions in sisters.* The lesions were probably congenital. Mr. R. C. ELMSLIE: Three cases of an unusual form of *Disease of the hip-joints.* Two of these corresponded to Calvé's pseudo-coxalgia. The third was of more doubtful resemblance. By the aid of skiagrams it was shown that the epiphyses of the heads of the femora were a little flattened, their surfaces uneven, and their upper edges proportionately thicker than normal. The necks of the femora were shorter and thicker. Dr. J. WALTER CARR: *Congenital syphilis with enlargement of the liver and spleen* in a girl aged 12. He inquired as to the advisability of using salvarsan in such a case. Also a case of *Hirschsprung's disease* (congenital hypertrophic dilatation of the colon) in a boy aged 9. Dr. C. W. CHAPMAN: A case of *Arterio-sclerosis with absence of radial pulses* in a girl aged 15. The Wassermann reaction was negative. A trace of albumen was found in the urine. Mr. SYDNEY STEPHENSON: *Interstitial keratitis* and osteoperiostitis in the tibiae in a boy aged 6, in whom the Wassermann reaction was positive. Neo-salvarsan had produced considerable improvement.

SECTION OF BALNEOLOGY AND CLIMATOLOGY.

Thursday, January 30th, 1913.

Dr. PERCY G. LEWIS, President, in the Chair.

Fibrositis.

DR. LLEWELLYN (Bath), in opening the discussion, intimated his intention of confining his remarks to muscular fibrositis. He emphasized the importance of gout as an etiological factor, 28.8 per cent. of all cases in his experience displaying objective stigmata, tophi, etc., whilst only 8 per cent. gave a previous history of acute articular rheumatism. The abrupt onset of acute cases was apparent not real, the causal process having developed insidiously. The muscular effort impeached was not so much the cause of the malady as the occasion of its disappearance. As regarded constitutional symptoms, he laid stress on the frequency of pyrexia even in milder cases, and also considered not uncommon the incidence of endocardial symptoms. Pain was the chief subjective symptom in acute cases, aching and stiffness in chronic types; the objective changes in the former cases were swelling, increased local heat, and, most important of all, increase in muscular tone or hypertonus, as shown by palpation. Hypertonus outlasted subjective symptoms, formed the link between exacerbations or relapses, and was responsible for disorders of movement whether volitional, passive, or synergic, and also for disorders of circulation. The rhythmic movement and relaxation of exercise being replaced by a state of tonic spasm, the circulation through affected muscle was impeded, and venous stasis resulted. This venous stagnation was a strong contributory factor in the production of nodules or infiltrations; in other words, the result of congestive induration.

Professor STOCKMAN (Glasgow), in dealing with the pathology of fibrositis, said that the pathological condition of fibrous tissues varied from an oedematous and rapidly proliferating tissue, showing many fibroblasts and very few leucocytes, to a dense and compact nodule or patch, according to the site of the mischief. A very significant feature distinguishing pathological from normal fibrous tissue was the presence of marked periarteritis and endarteritis in the blood vessels of the affected area, strongly

supporting the idea that the condition was the product of reaction to an irritant conveyed in the blood. The sensitiveness of the subjects of chronic rheumatism to variations of temperature, humidity, etc., was probably due to excessive exudation of lymph from the diseased vessels under such conditions and their imperfect absorption. Some degree of interstitial neuritis was commonly found in the nerves of the affected areas, which explained the very painful nature of the disease.

Mr. KENNETH GOADBY opened the discussion on the bacteriological side, giving a summary of animal experiments in which various bacteria isolated from the mouth, posterior nares, tonsil, faeces, and urine had been tested on animals. Certain of the organisms, *Streptobacillus malae*, *Streptococcus longus*, and *Bacillus macrodentalis*, had been isolated from the urine and faeces of cases suffering from fibrosis. Autogenous vaccines of these organisms had produced first well-defined exacerbation, and, finally, after a continued dosage, amelioration and improvement in the symptoms. Two cases were described in which no organisms were found in the urine until after heavy massage of the affected parts, followed by the application of Bier's bandage. On the following morning organisms were demonstrated in the urine.

Dr. JAMES MACKENZIE drew attention to certain forms of heart disease which occurred associated with muscular rheumatism. Among the various evidences of cardiac disturbances, he was able to demonstrate that heart-block occurred. As the presence of this heart-block implied a limited lesion affecting the auriculo-ventricular bundle, he suggested that, in all probability, the cardiac affection in these cases was due to an invasion of the heart muscle by the same process which Professor Stockman had shown to be present in the skeletal muscles.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on Thursday, February 6th, the PRESIDENT (Dr. Stanley Riseley) in the chair, Mr. ERNEST FINCH, in a paper on *Internal derangements of the knee-joint*, gave statistics of the results of treatment in 59 out of over 100 cases which had been treated in the Royal Infirmary, Sheffield, during the five years 1907–11. After a few preliminary remarks on the anatomy of the joint, illustrated by lantern slides, he considered its mechanism. Theoretically a sudden extension from a flexed or semi-flexed position would cause injury to the internal semilunar cartilage. This was confirmed by a definite history of a sudden extension in 44 of the 59 cases. In 7, however, the patient declared that the joint was fully flexed, and in 8 the position could not be ascertained. He briefly considered the symptoms and signs, pointing out that the diagnosis when the patient came to hospital was usually based on the history of the accident and the subsequent history of the patient as regards locking of the joint, etc. Twenty-five of the cases were miners who had been injured in the pit; twenty of these had the joint injured by a sudden extension movement. The treatment recommended was operative, and by that he meant removal of as much of the cartilage as possible. In 3 cases where the cartilage had simply been stitched down it had to be removed subsequently. In the after-treatment the patient should be allowed to walk as soon as possible with no retentive apparatus on the limb whatever. The cases in which there was any ankylosis had all worn hinge splints subsequent to operation. Of the cases, 56 had injury to the internal cartilage and 3 to the external; 2 cases had both cartilages removed from the same joint. The ages ranged from 11 to 56 years. The average duration in hospital was twenty-two days, the least seven days, and the longest thirty-seven days. The length of time elapsing after the operation before work was resumed was from nine days to five years; 5 had not resumed work, and of these 1 had marked fibrous ankylosis. In the other 4, no satisfactory cause could be found for the alleged incapacity. In 10 cases, nine months or more elapsed before work was resumed. In the remaining 44 cases, the average time was four weeks. In the great majority of the cases creaking was felt in the joint on movement, but in no way interfered with their work. There had been no suppuration. The technique he left for discussion by the members of the society. Mr. FINCH also showed a specimen of *Osteomyelitis and periostitis of the right tibia* removed by amputation from a youth of 16. The specimen showed an involucrum containing sequestra and cloacae. The supposed cause was a "twist of the ankle," six weeks before admission to the infirmary. Mr. GRAHAM SIMPSON, in a paper on *Stone in the kidney*, made an analysis of 30 operations for calculus, 16 in the kidney, 4 in the ureter; 1 operation was in a case of calculous hydronephrosis, and 9 were operations for calculous pyonephrosis. Albuminuria was present in 24 of the cases, obvious haematuria in 10 only. Skiagraphy was positive in 20 out of 21 cases, and cystoscopy was useful in confirming the site of the lesion in 15 out of 19 cases. Pyelotomy was recommended for removing stones, as there was no haematuria after that operation. No case of urinary fistula occurred in this series. Of the ureterotomies, 2 were done by the extraperitoneal route, 1 by the transvesical route, and 1 by the intraperitoneal route. The latter he regarded as an excellent operation. Nephrectomy was performed nine times, once for a small contracted kidney full of stones, and eight times for pyonephrosis. Only 1 case died. In this man a nephrotomy was done for multiple stones, and the patient died suddenly on the seventh day, apparently of a pulmonary embolism.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this society was held on January 31st, the PRESIDENT (Mr. Freeland Fergus) being in the chair. Mr. A. ERNEST MAYLARD showed several cases of *Cancer of the colon treated by operation* to illustrate abdominal incisions and methods of intestinal anastomosis. The incisions recommended were: (*a*) For exploration, the seat of obstruction in the colon being uncertain—a mid, subumbilical, vertical incision; (*b*) for caecum and lower ascending colon—an oblique incision in the right iliac region; (*c*) for hepatic flexure and upper ascending colon—a transverse incision carried outwards from a point situated above and to the right of the umbilicus; (*d*) for transverse colon—an incision carried across the abdomen 1 to 2 in. above the umbilicus; (*e*) for splenic flexure and upper descending colon—a transverse incision carried outwards from a point situated above and to the left of the umbilicus; incisions (*c*) and (*e*) gave access also to kidney tumours; (*f*) for lower descending, iliac, and pelvic colon—an oblique incision in the left iliac region. The methods of intestinal anastomosis illustrated were: (1) By lateral approximation, (2) by lateral implantation or side-to-side union, and (3) by invagination—that is, pulling a short length of the proximal segment through a longitudinal opening in the wall of the distal. The method to be adopted in any case was determined by the amount of free gut available after removal of the involved segment. Where this was limited, the first, where less limited, the second or preferably the third method was recommended. This last lessened the tendency to leakage in the event of distension of the bowel, and diminished the grave risk of infection at the mesenteric attachment. To prevent distension after operation it was advised that the sphincter ani be paralysed and a rubber tube of large calibre inserted, encircled with iodoform gauze soaked in glycerine. Through this tube gas could escape freely, and any discharges which might result from the irritative effects of the bowel wound. Dr. CRAWFORD RENTON read a short paper on *Obstruction of the bowels*. He referred to the various causes of obstruction, and recommended the sigmoidoscope as an aid to the diagnosis of tumours in the rectum and sigmoid. In very acute obstruction Paul's or Moynihan's tube was advised, to drain the bowel previous to a radical operation. The adoption of this procedure had greatly reduced the mortality. Where caecostomy had to be done, the method recommended by Kader for the stomach had been found useful. For paralysis of the bowel, eserine salicylate and pituitary gland were strongly recommended. In the last 33 cases on which Dr. Renton had operated on there were but 3 deaths, which was encouraging; and if the operations were carried out early in every case the mortality ought to be less. Dr. WILLIAM WATSON read a paper on *Adulteration of foodstuffs and its influence on digestion*. The 1901 report of the Local Government Board upon the use of

preservatives and colouring matters in the preservation and colouring of food showed that the substances most commonly used were boracic acid, borax, salicylic acid, formalin, and sulphites, while a large number of other substances were in less common use. One or other of these were found in 39 per cent. of all samples of food examined, including samples of milk, cream, butter, margarine, sausage, bacon, brawn, potted meat, potted fish, meat extracts, meat juices, and temperance drinks. All these substances were germicides, all were gastro-intestinal irritants, and all had a more or less inhibitory action on the digestive ferments.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

A CLINICAL meeting was held on February 4th, the PRESIDENT (Dr. Constance Long) in the chair. Dr. FLORENCE STONEY showed a woman, aged 59, suffering from *Scirrhous carcinoma of the left breast.* When first seen, seventeen months ago, the case was considered inoperable. *X*-ray treatment had been administered about once a fortnight since then. The case had remained stationary for fifteen months, except that a large ulcerated area had rapidly healed over. During the last two months several new nodules had appeared, and the patient had lost weight. The PRESIDENT showed a woman who had for twenty years suffered from *Morphoea of both legs.* A firm, slightly depressed vascular patch, about 6 in. long, was seen on each shin, and other symmetrical patches were present on the thighs. Dr. AGNES SAVILL said that the condition was rare in showing a telangiectatic condition of atrophy after twenty years. In most cases of morphoea fibrous tissue gradually developed, cutting off the superficial blood supply, and leaving the typical white lardaceous areas inlaid in the skin. Dr. OCTAVIA LEWIN showed a case of *Tertiary syphilitic ulceration of the right knee,* which had responded in a marvellous way to two injections of salvarsan given a year previously at intervals of fourteen days. Other antisyphilitic remedies had been tried without effect for seventeen years, and during this time the knee had been riddled with deep sloughing ulcers; four months after the injections of salvarsan it had entirely healed. Dr. L. GARRETT-ANDERSON showed: (1) A case of *Raynaud's disease* which was improving under treatment by massage, calcium lactate, and thyroid extract; (2) a woman having a *Swelling in the groin,* probably due to venous enlargement, though simulating a femoral hernia.

THE ninety-fourth anniversary dinner of the Hunterian Society took place on Tuesday, February 4th, at de Keyser's Royal Hotel. The President, Mr. A. H. Tubby, F.R.C.S., who was in the chair, gave the loyal toasts, and Dr. Hyslop then entertained his audience with a witty speech in proposing prosperity to the Hunterian Society. In his reply, Mr. Tubby traced its foundation back to 1819, and recalled a long list of illustrious presidents, including Bright, Lavington, and Sir Thomas Curwen. In speaking of the Hunterian lecturers, he mentioned Dr. Frederick Taylor, who had dealt with sleepiness, and Professor A. Keith, who had discoursed on the anatomical and pathological characteristics of Napoleon's remains, and cited a discussion which had taken place on anaesthesia. Before concluding the President made reference to the fact that the society had recently been turned out of its old home, the London Institute, and was now temporarily receiving the hospitality of St. Bartholomew's Hospital. He feared that it might turn out that in the future its home would be in the West End, but he preferred a City address, as he considered this advantageous to the society. The toast of the "Guests and Sister Societies" was ably proposed by Dr. W. Langdon Brown, who twitted the previous speaker for claiming that the society was the second oldest of the learned societies. He mentioned that the Abernethian Society had a prior claim. Sir W. Watson Cheyne, Bart., replied for the Medical Society of London, and Sir Francis Champneys, Bart., for the Royal Society of Medicine. Dr. Latham, who also replied, referred to the work of the Astor Committee and foreshadowed great things from the grant for medical research. The toast, "The Orator and Officers," was given by Dr. W. M. Ettles and responded to by Dr. Goodall. Dr. F. J. Smith gave the health of the President, and Mr. Tubby replied briefly.

Reviews.

ACHONDROPLASIA.

IN the title of his book—*Achondroplasia, its Nature and its Cause: A Study of the Stunting of Growth in Embryonic Cell Groups caused by Amnion-pressure in the Different Stages of the Skeleton,*[1] Dr. MURK JANSEN, Lecturer on Orthopaedic Surgery in the University of Leyden, explains succinctly enough the purposes which he has set before him. The monograph is divided into two parts; the first, which studies the nature of achondroplasia, is chiefly clinical, and the second, which discusses the cause of achondroplasia, and concludes that it lies within the province of teratology.

In the first part the author furnishes us with a minute description and accurate measurements of the abnormalities met with in the several degrees of achondroplasiac dwarfism, and he demonstrates with the utmost clearness that the amount of retardation of growth in the various skeletal structures varies directly, not with their distance from the head or centre of the body, not with the time of their ossification, not with the time of their change into cartilage, but accurately with the time of their primary formation as sclero-blastema. Influences prejudicial to development acting upon the primitive cell groups at this early period are sufficient to retard permanently the growth of the structures, and this retardation is most marked in those parts of the skeleton which are latest formed and most immature at the time of injury.

Secondly, the author is able to demonstrate equally clearly that with achondroplasia are constantly found certain other deformities not characterized by the stunting of growth, and these he describes under the heading of "Mechanical Malformations." Among these are a marked shortening of the basis cranii from before backwards, compensatory enlargement of the skull from side to side, depression of the bridge of the nose, backward displacement of the hard palate and tilting upwards of its hinder end, arcuate kyphosis of the spine, and bending forward of the sacrum and coccyx between the legs. The author endeavours—and we think successfully—to show that these mechanical malformations which, inasmuch as they are much less conspicuous than the phenomena of dwarfism, have for the most part hitherto passed unnoticed, are occasioned by the unfolding of the embryo, and by an exaggeration of the head and neck curves of the embryo as it lies within the uterus. He concludes that the period of excessive infolding characteristic of achondroplasia coincides with the scleroblastema stage of the skeleton, and that it is limited on the one hand by the "physiological curving" of the third, and on the other by the "physiological stretching" of the sixth week of embryonic life. The excessive infolding is in turn the result of excessive amnion pressure. In the last part of his book he discusses the relation of other occasional and less characteristic symptoms of achondroplasia to excessive amnion pressure and excessive infolding of the embryo. Among such occasional symptoms are hare-lip, micrognathy, agnathy, myxoedema, hydrocephalus, gas bubbles in internal organs, subcutaneous fatty masses, and excess of sexual appetite. This last symptom, according to the author, finds explanation in the disturbance in the development of the pituitary body, which undoubtedly exists in the severer cases.

We confess that we are not entirely satisfied with the evidence that exaggeration of sexual function is common or usual in achondroplasia. The references to the literature quoted are explicable if we remember that a normal sexual activity and a normal development of the sexual organs is likely to excite remark when contrasted with the apparent immaturity of the rest of the body. Be that as it may, we believe that the views expressed in this work will profoundly influence our conception of the nature and cause, not only of achondroplasia, but of many other developmental abnormalities. We have nothing but admiration for the remarkable powers of

[1] *Achondroplasia, its Nature and its Cause: A Study of the Stunting of Growth in Embryonic Cell Groups caused by Amnion-pressure in the Different Stages of the Development of the Skeleton* (anencephaly, achondroplasia, kakomelia). By Dr. Murk Jansen, Lecturer on Orthopaedic Surgery, University of Leyden, Holland. Leyden: E. J. Brill, Ltd. London: Baillière, Tindall, and Cox. 1912. (Demy 4to, pp. 98, figs. 50.)

observation, reasoning, and imagination of which the author shows himself possessed. His work may well be the starting point of much fruitful investigation in the domain of teratology and congenital abnormality.

PUERPERAL INFECTION.

DR. HAMM'S monograph on puerperal infection[2] is an interesting summary of the present position of the various scientific questions that group themselves under this title, and loses none of its interest from the fact that it purports to give the finishing stroke to the doctrine of sapraemia. The author, who has himself worked through most of the relative investigations in the laboratory, adopts a classification based on that of Aschoff for the possibilities of infection, and then passes to the detailed discussion of the evidence relating to individual micro-organisms. This discussion occupies almost half of the whole number of pages, and is followed by considerations of puerperal predisposition to infection and of virulence, of which not haemolytic power but rapidity of growth and presence in pure culture are the best criteria. He then passes to more clinical questions in the consideration of the forms of puerperal fever. In the course of this he indicates that there is no essential difference in the various lymphangitic types, save in the rapidity of spread, and states that bacterial multiplication in the blood itself is merely a premortal phenomenon. This section concludes with the statement that since in cases of rise of temperature on the evening of delivery he always found numerous micro-organisms in the vaginal secretion, often in pure culture, these cases must be looked upon as the expression of an endogenous infection of a slight kind.

On the therapeutic side we find a strengthening of various recognized positions, such as the sparing, but not always conservative, treatment of abortions, even when haemolytic organisms are present, the reinforcement of uterine contraction by ergot, the leaving of retained membranes which are not removed immediately on delivery, and the douching of the vagina with hydrogen peroxide. The uterine douche may be used once when it can remove matter that would serve as pabulum for organismal multiplication. Dr. Hamm is sceptical of the efficacy of the various methods of bacterial therapy that so far have been employed.

OPERATIVE SURGERY.

THE new edition of BINNIE'S *Manual of Operative Surgery*[3] is published in one volume instead of two. This, as the author points out in the preface, is a reversion to the original form of the book. The work is a complete departure from the average type—the old-fashioned type—of text-book on operative surgery, in which predominance was given to amputations, excisions, and ligature of vessels. These for the most part were nothing more or less than surgical exercises, and were seldom or never required to be performed on the living subject. The manual of operative surgery of to-day must contain descriptions of all the newest operative procedures, and a diligent search in this work has found no omissions. Indeed, it is possible that a severer discretion might have been exercised with advantage, and reference to some operations not in the least likely to stand the test of even a very short time might have been profitably omitted. The author has preserved the balance of the various sections in a satisfactory way, and the regions have each a due proportion of space. There is no waste of words in describing the different steps of operations, but rather is there a tendency for descriptions to lose in lucidity what they gain in brevity. The method adopted is to describe step 1, step 2, and so on, and under each step different modes of performing it are detailed. References to the original sources are given in every case. A notable feature is the large number of illustrations; these are rather unequal, but the inequality is explained by the fact that almost all are reproductions of the originals which range through the whole gamut, from the simple sketch illustrating Lister's operation for old-standing ununited fracture of patella with explanatory notes in his own handwriting to the elaborately detailed fine lines of the Mayo stomach pictures. The proof reading seems to have been hurriedly done; we find blunders on pages 314, 516, 539, 853, amongst others. The merits of the work are undoubtedly great, and its already well-recognized position will be more firmly established than before. Surgeons will find it a thoroughly cosmopolitan book, in which the whole range of the very newest of modern surgery as well as of surgery of remoter date is concentrated.

The fourth edition of Mr. H. J. WARING'S *Manual of Operative Surgery*[4] has followed quickly upon its predecessor. The whole work has been revised and the high standard has been thoroughly maintained. Descriptions of some new operations, for example, those connected with blood vessel surgery, have been introduced and those of some old ones omitted. Such a constant regenerating process is necessary. Operations on the limbs are much fewer than even a few years ago, and those on the abdomen, head, and thorax are much increased in number. Some more operations might well have been omitted from Mr. Waring's list. Many of the operations for ligation of arteries are merely dissecting-room exercises seldom or never performed on the living subject. Similarly, some of the amputations might have been cut out. The employment of skiagraphs of the hand and foot in illustrating the lines of incision in certain amputations is to be heartily commended; the relation of the incision in the skin to the line of section through the bone is made strikingly clear. In the preface the author says that the question of anatomical terminology has been carefully considered and that he has adopted the international terminology throughout. This is certainly a little confusing, but the student has at hand in the beginning of the volume a glossary of this terminology. In spite of this it is sometimes difficult to find the new equivalent of certain terms in the old terminology. Changes of this sort are not popular at first, but any change which makes for the unification of scientific language and description ought to be accepted as graciously as possible. No alteration in the arrangement of the work has been made. After two very complete introductory chapters on general surgical technique brought thoroughly up to date the student is plunged at once into the intricacies of gastric surgery. We remember that in a former edition Mr. Waring explained this apparent departure from a gradual leading on from simple operations to more and more difficult ones. After all, the book is intended to reach a wide circle of readers, and the student must turn to the index to find what he wants. This manual is a safe guide in operative work, as absolutely sound in its teaching, and one well fitted for every-day use by the practitioner. It is hardly necessary to add that as one of the Oxford Medical Publications the publishers' part of the work is well done. The illustrations are apt and not too numerous. We have discovered so far two clerical errors: on p. 167, fifth line from bottom of page, and on p. 361, where the word "facial" has been maltreated.

The temptation to write a textbook on operative surgery seems difficult to resist. Probably many of them have in a manner grown very much as Topsy "growed." The teacher begins with a few loose leaves of notes for the use of his pupils, then these are printed and extended, then the students ask if they cannot buy these notes, and so very soon a book is launched into the world. Perhaps Professor VICTOR SCHMIEDEN'S book[5] did not grow up in

[2] *Die puerperale Wundinfektion.* Von Dr. Albert Hamm, Oberarzt an der Universitäts Frauenklinik in Strassburg, I.E. Berlin: Julius Springer. 1912. (Roy. 8vo, pp. 167. Mk.6.)

[3] *Manual of Operative Surgery.* By John Fairbairn Binnie, A.M., C.M.Aberd., Surgeon to the General Hospital, Kansas City, Mo., Fellow of the American Surgical Association. Fifth edition, revised and enlarged. London: H. K. Lewis. 1912. (Roy. 8vo, pp. 1163; figs. 1365. 30s. net.)

[4] *Manual of Operative Surgery.* By H. J. Waring, M.S., M.B., B.Sc.Lond., F.R.C.S., Surgeon to and Joint Lecturer in Surgery at St. Bartholomew's Hospital, Consulting Surgeon to the Metropolitan Hospital. Fourth edition. London: Henry Frowde, and Hodder and Stoughton. 1912. (Cr. 8vo, pp. 828, figs. 541. 12s. 6d. net.)

[5] *Der chirurgische Operationskursus.* Ein Handbuch für Aerzte und Studierende. Von Professor Dr. Victor Schmieden, Privatdozent der Chirurgie an der Universität, Berlin; Assistant der Kgl. chirurgischen Universitätsklinik. Zweite, erweiterte und verbesserte Auflage. Mit 435 Abbildungen im Text und einem Vorwort von Professor Dr. A. Bier. Leipzig: Johann Ambrosius Barth. 1912. (Royal 8vo, pp. 480. Mk. 14.50.) And *The Course of Operative Surgery.* By Professor Dr. Victor Schmieden. Translated and edited by Arthur Turnbull, M.B.Glasg., M.A., B.Sc., Demonstrator of Anatomy in the University of Glasgow. London: Baillière, Tindall, and Cox. 1912. (Roy. 8vo, pp. 365, figs. 435. 12s. 6d.)

this way, though its appeal appears to be more or less local and limited. It is local in so far as it is the practice of Professor Bier's clinic which has been closely followed, and it is limited in that the book is avowedly concerned more with operations on the dead subject than on the living. But in spite of these limitations the volume will be found very useful. It is convenient in size; the descriptions of operations are concise without loss of clearness; the numerous illustrations are of a very high standard of artistic merit, and yet they are anatomically and surgically accurate. The practitioner who seeks for guidance will find the principles of the surgical art well set forth; for details he must go elsewhere. The student will find the book excellent and readable, and he will be relieved to see that the text is not overburdened with names of operators and suggestors of operations, and that simple methods have been everywhere preferred to complicated ones. There are some points to which attention should be drawn. In the description of the mastoid operation we find no mention of the dental burr, an instrument which makes the exposure of the sigmoid sinus and the mastoid cells a much safer and easier business than the employment of chisels throughout. The operation is by no means clearly described. The author says that "Syme's amputation is not often employed in practice," and prefers Pirogoff's, but we believe that Syme's is the commoner operation, in this country at least. No description is given of nephrectomy by the abdominal route. Simultaneously with the second German edition appears the first edition in English. The translation is by Dr. ARTHUR TURNBULL of the Anatomy Department, Glasgow University. Dr. Turnbull adheres absolutely to the text, adding only a few notes here and there, and a name or two on some illustrations. The English of the translation is not always unimpeachable; for example, on page 256 we find "very grave risk of the transverse colon *going* gangrenous," and throughout the translation there is a too manifest tendency to adhere to German idiom and phraseology. The translator perhaps flatters himself and the author when he expresses the belief that the book will become the "student's handbook in every college where English is the medium of surgical instruction." We are patriotic enough to hope that quite as good books are written by English authors for English-speaking students. We observe that the proof reader has passed at least two errors: on page 181, second line from foot of page, and on page 203 in the descriptive lettering of the illustration.

Professor PELS-LEUSDEN'S work on *Surgical Operations*[6] is on the whole a good average book. In the preface he disclaims any attempt to range over the whole field of operative surgery, but his effort to be brief without omitting anything important has not been very successful, for the book has 726 pages, of large size. We do not think that anything important has been omitted, but we do think that there are things in it which might well have been omitted, and others which might have been done a great deal better. We cannot think that any good purpose is served by the description of Momburg's method of constriction to control the abdominal aorta, and the omission of other methods much less dangerous. And we venture to think that the translator errs when he says in a footnote that Momburg's method has "gained an honourable position in obstetrical and surgical practice." As to the things which might have been done better we take the description of suprapubic prostatectomy. Freyer's method is supposed to be adopted; but the description differs widely and in many details from the Freyer operation as we understand it. In the chapter on nephrectomy we find the two routes sufficiently well described, with, perhaps, too sanguine an estimate of the ease of the transperitoneal method. The author takes the tuberculous kidney as his type, and it is difficult to accept the opinion expressed that it does not greatly matter although some portions of diseased renal tissue are left behind, as permanent cure results. The most likely thing to happen is the persistence of a permanent and troublesome sinus—and that is not cure. The author recommends that the thickened ureter should be followed down as far as possible, ligated, and stitched to the lower extremity of the external wound, where it may later receive proper irrigation treatment. The practice in this country is to sterilize the cut end of the ureter and drop it back into the wound, where, as experience shows, it is harmless. In the chapter on bone and suture of bone there is no reference to Lane's plates; indeed, there is a notable absence throughout the volume of reference to the work of other than German and French surgeons. The chief merit of Professor Pels-Leusden's book, indeed, consists in this—that it is representative of German surgery. The translation is by Dr. FAXTON E. GARDNER, but we cannot conscientiously congratulate him on the result.

[6] *Surgical Operations: A Handbook for Students and Practitioners.* By Professor Friedrich Pels-Leusden, Chief Surgeon to the University Surgical Clinic and Chief of the University Polyclinic in the Royal Charity Hospital of Berlin. Only authorized English translation, by Faxton E. Gardner, M.D., New York. London: Rebman, Limited. 1912. (Sup. roy. 8vo, pp. 756; figs. 668. 30s. net.)

NEUROLOGICAL SURGERY.

PROFESSOR KRAUSE'S monograph on the surgery of the brain and spinal cord,[7] the translation of which by Professor HAUBOLD of New York is now completed in three handsome volumes, is an elaborately illustrated and completely documented work. But it is more than that: it is a storehouse of information simply and carefully recorded by a surgeon of almost unrivalled experience in this field; it is a work of reference to which every other surgeon will certainly be indebted. In our preliminary notice of the first volume we praised the coloured plates, but did them less than justice; a fuller acquaintance with the work of the portrait painter Max Landsberg convinces us that the pictures do indeed illustrate the technical and pathological conditions disclosed at actual operations; certainly they form a valuable addition to the instruction in the text. The first volume is largely concerned with general principles and technique. Krause employs an osteoplastic method exclusively on the skull; he uses no electrical instruments, but relies on burrs and Dahlgren forceps, avoiding even Gigli's saws. He pays great attention to preliminary and permanent haemostasis. The two-stage method, except for abscess, is his choice, with an average interval of six days. The precise directions given for dealing with leptomeningitis, cysts, tumours, cortical excisions, abscesses, as regards bone, dura, drainage, dressings, and other details, are valuable. His methods of approach to the Gasserian ganglion and pituitary body are already well known. It is interesting to find that he does not agree with Cushing as to the best site and method of decompression. In the closure of large defects he favours an osteoplastic method, but employs also free transplantation of bone. For topography he relies upon Krönlein, finding Kocher's method inaccurate. His experiences of temporary and permanent drainage of the ventricles are not very satisfactory. It may be noted that he does not use morphine as a preliminary to anaesthesia in brain operations; neither does he wear gloves when exploring the cranial contents; there is no doubt that gloves do eliminate the fine shades of tactile sensation which may be essential for delimiting some brain tumours. It is, however, when we reach the second and third volumes that we realize the wealth of the author's clinical experience, and the assiduity with which the full benefit of every individual observation has been extracted. It is only by reading *in extenso* the clinical histories incorporated in the text that the brief introductory paragraphs on each section of the subject, and each branch of it, are wholly appreciated. This involves, of course, great expenditure of time, but the time is well spent; and cumbersome though the method is, it is probably unavoidable where there are such enormous differences even between analogous cases, as there often are with cerebral and spinal disorders. More than two hundred pages are devoted to "Epilepsy," including Jacksonian; to those the result of infantile palsy, birth injuries, tumours, intoxications, reflex irritation, and to those without anatomical lesion; genuine general epilepsy; traumatic and reflex epilepsy. Some of his results are very remarkable; many are disappointing; and this applies both to cases in which a definite lesion is discovered and to those in which cortical excisions were made at the initiating centre,

[7] *Surgery of the Brain and Spinal Cord.* By Professor Fedor Krause. Translated by Professor H. A. Haubold, M.D. Three volumes. Numerous coloured plates and figures in text. London: A. K. Lewis. 1910-12. (Imp. 8vo, pp. 1201. 30s. net each volume.)

When he comes to the consideration of neoplasms, Krause's regional differentiation of focal symptomatology is of great importance. No better indication of its value could, perhaps, be offered than the written diagnoses attached to the cases when sent to the author for operation by his colleague, Oppenheim; they are models of precision. In Volume III the question of prognosis is discussed; it is, of course, melancholy, but far less so than it used to be. The mortality in different regions varies from 25 to 66 per cent.; the cures are, however, in many cases permanent and practically complete. Of 81 neoplasms only 9 were solitary tubercle; the gliomata numbered 21, sarcomata 15, and fibrosarcomata 11. Of 24 patients with tumours of the cerebello-pontine angle only 4 were cured. Intracranial suppuration, wounds, and injuries are dealt with a little briefly by comparison. The spinal cord is treated with just the same thoroughness as the brain, both as to diagnosis, prognosis, and operative technique; the case-histories and pictures should afford a parallel for almost any problem a surgeon may have in hand. In the face of a pathetic appeal in his preface it would be unfair to criticize the translator; but it is difficult to excuse a carelessness that renders "Vorderbein," in an important passage, by "forebone."

Dr. L. N. DENSLOW has obtained such encouraging results by the surgical treatment of tabes dorsalis that he has laid them before the medical profession in a small book.[8] He finds in every male case of this disease, without exception, an abnormal condition of the urethra; and that by suitable treatment of this condition many of the signs and symptoms may be cured, alleviated, or held in check. Syphilis, he holds, is not enough to cause locomotor ataxy; the most prominent additional factor in the male is urethral irritation, and the preponderance of male over female cases may be accounted for by the greater extent of the urethral surface in men. Dr. Denslow first examines his patients most carefully with the urethroscope or the Otis urethrometer, to find erosions, granulations, or strictures. Care must be taken not to irritate a hypersensitive urethra; the lesions, when found, are given the appropriate local treatment. At the same time care must be taken to avoid constipation (which is the rule in tabes) and gastric disturbances. He believes that urethral irritation, using the term in a very wide sense, is the cause of all sorts of disturbances of health in many cases, instancing *inter alia* epilepsy, melancholia, partial paralysis, syncope, general alopecia, acne, functional eye troubles, anaemia, cystitis, and uraemia. Dr. Denslow carries out his local treatment for long periods, usually three months, in one case quoted for seven. His book may be commended to the attention of specialists in diseases of the genito-urinary system and to neurologists.

SYPHILIS.

As the author states in the preface of the second edition of *Syphilology and Venereal Disease*,[9] great changes have lately taken place in our outlook on this whole subject. Mr. MARSHALL published the first edition of this book in 1906, and he was able to include therein some mention of Schaudinn's great discovery of the *Spirochaeta pallida*, which has since been so fully confirmed and amplified; but the Wassermann reaction had not then been invented, nor had diamidoarsenobenzol been synthetized. There is, however, yet another change which marks a still greater advance, slowly affecting the whole of syphilology, and that is the increasing recognition of the importance of venereal disease as an influence on public health. The recognition of this factor is now illustrated (at the expense of the medical profession) by the provision which is made in the Insurance Act that the treatment of venereal disease should form part of the medical benefit provided by that measure. But it is undoubtedly a great sign of progress that the public authorities should realize the importance of early and efficient treatment of venereal disease, and discard their old policy of merely ignoring its existence, and Mr. Marshall might have given more attention to this aspect of his subject. He has an interesting chapter on syphilis in relation to life assurance, and the book would have been increased in value by the addition of one on venereal disease in relation to public health. Important work has been done on this subject in Australia and Denmark within recent years. On the clinical side the book is strong. Primary syphilis, secondary syphilis, tertiary syphilis, quaternary or parasyphilis are all fully dealt with—as fully as is possible within the limits of a comparatively small book, and gonorrhoea and its scarcely less important complications also receive their due meed of attention. Discussion of the modern developments of syphilology is deferred to the last chapters of the volume. Mr. Marshall holds that the chief use of the Wassermann reaction is in the diagnosis of nervous affections. Whether others agree with such a limitation of its utility or not, and most observers, we fancy, would testify to the information they have derived from it in many other obscure cases, there can be no doubt that he is right when he says that clinical evidence should never be supplanted by laboratory tests. As regards the treatment of syphilis with salvarsan Mr. Marshall is well known to hold very conservative views, but in his chapter on the subject he gives a very fair summary of the case for and against the use of that remedy—in fact, the conclusions at which he arrives are far more favourable to salvarsan than one would expect, after reading the sarcastic comments on the subject which he has frequently published in letters to the medical press. In conclusion, it may be said that the book forms a very useful guide to the study of venereal disease. Its value is enhanced by the inclusion of a large number of references at the end of each chapter, but it might with advantage have been more fully illustrated.

Dr. MARCHILDON'S book on the *Wassermann Reaction*[10] is another addition to the many works dealing with this subject, and, like most of its kind, attaches rather undue importance to the diagnostic and therapeutic values of the reaction. Without in any way wishing to belittle the value of the work done by laboratory workers, it would almost seem necessary to remind some of them that syphilis was not infrequently diagnosed and successfully treated prior to Wassermann's discovery. The technical part of the book is clear and concise, but as regards the interpretation of results we find several contradictory statements. For instance, on page 73 the author states that many eruptions can be readily distinguished from syphilis by the Wassermann reaction, while on the same page he says that a positive reaction only means that the patient is syphilitic, not that the lesion is necessarily syphilitic. Again, on page 92 he says that he has never obtained a complete negative reaction after potassium iodide alone, while on page 95 he remarks that the reaction may entirely disappear under this drug. Another apparent contradiction concerns the nature of the antigen; for, after stating that the value of the antigen does not depend on the quantity of spirochaetes contained in the tissue, he says that the ideal antigen would be a pure culture of the *S. pallida*. Again, the author's conclusion that in some early cases of chancre after prompt energetic treatment the reaction "remains negative throughout life" is somewhat premature, considering that the reaction was only discovered in 1906.

A PUBLIC MEDICAL SERVICE PHARMACOPOEIA.

THE advanced condition of the organization of the Leicester Public Medical Service is shown by the fact that the board of management has now published a pharmacopoeia for use in the district in the work of all branches of the service. It contains some eighty formulae; in some cases these are similar in essentials to official formulae and can be used in place of them, as in the case of compound decoction of aloes, in which the expensive saffron is omitted and ginger takes the place of compound tincture of cardamom. The greater number of the formulae, however, are for mixtures, pills, lotions, gargles, etc., frequently in use, but for which no formulae

[8] *A Surgical Treatment of Locomotor Ataxia.* By L. N. Denslow, M.D. London: Baillière, Tindall, and Cox. 1912. (Cr. 8vo, pp. 128. 3s. 6d. net.)

[9] *Syphilology and Venereal Disease.* By C. F. Marshall, M.D., M.Sc., F.R.C.S. Second edition. London: Baillière, Tindall and Cox. 1912. (Cr. 8vo, pp. 572; 5 plates. 10s. 6d.)

[10] *The Wassermann Reaction.* By T. W. Marchildon. London: Henry Kimpton. 1912. (Cr. 8vo, pp. 114, with 11 illustrations and coloured frontispiece. 6s. 6d. net.)

are included in the *British Pharmacopoeia*. The prescriptions are excellent and the compounds are inexpensive; it is, of course, important, for the purposes for which this pharmacopoeia is compiled, that money should not be wasted on useless ingredients or on expensive articles when cheaper ones are equally efficient; thus the use of "sweet oil" in place of olive oil is authorized, and another note states that "non-alcoholic tinctures may be used in the preparation of these formulae where pharmacological action will not be impaired." By arrangement with the chemists of the district, medicines prepared in accordance with this pharmacopoeia are kept ready for use, as well as the ordinary medicines of the *British Pharmacopoeia*; and these formulae will also be recognized for insured persons, except where preparations not in the tariff or the *British Pharmacopoeia* are included. In these cases equivalents will be substituted in accordance with a list issued by the Chemists' Association, the titles of the formulae remaining the same. Formulae are given both in imperial and metric weights and measures. The book is thin, of convenient dimensions for the pocket, and interleaved with plain pages, and it would not be surprising to find it adopted in other districts as well as that in which it has been produced. The office of the Leicester Public Medical Service is at East Bond Street, Leicester.

NOTES ON BOOKS.

A VAST number of writers have taken advantage of the crusade against tuberculosis to express their views as to prophylaxis and treatment. For the most part they merely repeat an oft-told tale. The writer of this little book, a practitioner of forty-seven years' standing—*Notes on the Treatment of Tuberculosis*[1]—being convinced of the virtues of a certain prescription containing some little used drugs, is anxious that others should benefit by his experience. As a strong believer in the need for calcium salts as a protective, especially in childhood, and in the value of cod-liver oil, he sets forth his opinions with much argumentative skill, backed by quotation from writers of varying degree of authority; but the arguments all lead up to the prescription and the calcium salts at last. A compact little book, well printed and set up, containing many sound observations and much good advice within a limited range.

The eleventh number of the Clinical Series of the *Archives of the Middlesex Hospital* includes a paper by Sir Pearce Gould on some unusual cases of mammary growths; a review of one hundred cases of chorea treated by chloretone, by Dr. Essex Wynter; some notes on thrombosis, by Mr. Somerville Hastings; a paper on the significance of rheumatic rashes, by Dr. E. A. Cockayne; an interesting report on an unusual case of carcinoma of the pelvic colon, by Mr. Alfred E. Johnson and Mr. Lakin. Mr. Alfred E. Johnson contributes an interesting short note on the substitution of the application of tincture of iodine for dressings. After reading Mr. Reginald Alcock's paper on iodine as the sole dressing for operation wounds, in the BRITISH MEDICAL JOURNAL of February 3rd, 1912, Mr. Johnson used tincture of iodine and discarded dressings in cases where the wound was closely sutured. In this way he treated over fifty cases of operation, including 12 operations for the radical cure of hernia, 12 for appendicitis, 4 coeliotomies, 2 nephropexies, 2 for undescended testis, and 6 for removal of superficial tumours. In a few cases where dressings were considered necessary at first—for example, in amputation of the breast until the drainage tube was removed, and in excision of varicose veins to support the limb for forty-eight hours—they were given up as soon as possible, and iodine solution applied. The results, he states, were most gratifying; the comfort of the patients was increased, and the wounds healed even better than with dressings; in no case did the slightest inflammatory reaction occur. This number of the *Archives* contains also a communication on methods in mental therapeutics, by Dr. H. Campbell Thomson; a report by Dr. Comyns Berkeley on two cases of chorion-epithelioma; a note by Mr. Sampson Handley on two fatal cases in which acute appendicitis lighted up an old tuberculous lesion; and a case of rupture of the vagina during coitus, by Dr. Victor Bonney.

[1] *Notes on the Treatment of Tuberculosis*. By John Laird, L.R.C.S. and P.I. Bristol: John Wright and Sons, Limited. London: Simpkin, Marshall, and Co. 1912. (Cr. 8vo, pp. 85. 2s. 6d. net.)

THE PARLIAMENTARY COMMITTEE ON PROPRIETARY REMEDIES.

WITH the end of the Parliamentary Session the authority of the Select Committee appointed to inquire into the sale and advertisement of proprietary medicines lapses, but at the meeting of the Committee on February 6th the Chairman (Sir Henry Norman) announced that as the investigations had not been concluded a report would be presented to the House of Commons recommending that the Committee be reconstituted next Session.

WOODWARD'S GRIPE WATER.

The first witness called was Mr. William Woodward, managing director of Woodward Limited, of Nottingham, proprietors of Woodward's Gripe Water. The witness stated that the preparation was based on the prescription of a family physician; in Nottingham it was recommended by members of the medical profession, and two of them, to his knowledge, purchased considerable quantities for dispensing. He complained that the formula published in *Secret Remedies* with regard to the preparation was inaccurate, seriously incomplete, and misleading. One active ingredient of considerable medicinal value was omitted. Dealing with the general question, the witness expressed strong objections to the publication of formulae. He claimed that the prime cost of the ingredients of proprietary medicines bore a larger proportion to the sale price than in the cost of ingredients of most medicines dispensed by doctors.

In reply to Dr. Chapple, the witness agreed that it might be a good thing if the exaggeration that prevailed in advertisements of proprietary medicines could be suppressed, but he did not think legislation was necessary to that end.

STEEDMAN'S SOOTHING POWDERS.

Mr. J. A. South, manager of the firm of Steedman and Co., 272, Walworth Road, S.E., manufacturers of Steedman's Soothing Powders and other preparations, said that the soothing powder had been on the market since 1820. The medicines sold by the firm were compounded by a pharmaceutical chemist, and the formulas were known only to the firm and to Mr. Hake, who would appear.

The Chairman called the attention of the witness to a statement on the label of the packets of soothing powders to the effect that "to prevent substitution His Majesty's Honourable Commissioners of Excise had ordered the name of John Steedman to be printed on the Government stamp."

The witness replied that this statement had been withdrawn.

Mr. Lawson: It rather implies that the Government is at your back?

The Chairman: It does not imply it; it states that to be the case.

The witness was questioned with regard to a pamphlet issued by his firm, bearing on its title-page the words—"Hints to Mothers on the Treatment of their Children. By M.D. of London." He said that the services of the doctor in writing this pamphlet were obtained through an agent. He did not know the name of the writer, as it was made a special condition that this should not be revealed.

The Chairman: You must realize that that is a very unsatisfactory statement from our point of view. Here is an advertisement of a proprietary medicine written by a man with the highest medical qualification in the world. Did he write the parts relating to Steedman's Powders?

The Witness: If not, they were submitted to him.

Have you his authority for saying that everything was submitted to him, and he approves of it?—Certainly.

Pressed to give the Committee the name of the doctor either publicly or privately, the witness retorted that Dr. Cox said if he knew of a medical man doing such a thing as this he would report his conduct as infamous in a professional respect. After that, how could he give the name to the Committee?

The Chairman: Then it amounts to this: that the medical man desires to have his name suppressed because he knew he was committing an act contrary to the etiquette of his profession.

In reply to further questions, the witness said the

medical man who wrote the pamphlet had no interest in the business. He could not say definitely whether he received payment; an agent made the arrangements.

Mr. Cawley: You are sure he was paid?

The Witness: I think it is very probable.

The Chairman: It is in our power to require you to produce the correspondence. The public interest, if the Committee so decided, would override your promise. It is a serious matter that an advertisement of a proprietary medicine should be circulated in the name of a medical man with a very high qualification. We should like to have asked him his views as to the therapeutic effect of the medicine.

Dr. Chapple pointed out that "M.D. of London" was not the orthodox way of describing a medical graduate of London University. A doctor reading "M.D. of London" would conclude that the person so described was not a holder of the London University degree, but perhaps resided in the metropolitan area.

The witness promised the Chairman that he would endeavour to obtain permission to disclose the doctor's name, either publicly or privately. As he expressed a desire to refer the Committee to Mr. Hake as to the therapeutic value of Steedman's Soothing Powders, no further questions were addressed to him.

Mr. Henry Wilson Hake, the next witness, said he was a member of the Institute of Chemistry, a Fellow of the Chemical Society, and lecturer on chemistry and toxicology at Westminster Hospital. He held the degree of Ph.D. of Giessen University.

The Chairman: You appear here in connexion with the manufacturers of Steedman's powders?

The Witness: I should not like to put it in that way; I come here to correct an erroneous statement in *Secret Remedies*. Continuing, the witness said the analysis given in that book was incomplete, and gave an entirely erroneous impression as to the composition of the powders.

The Chairman: You will naturally expect that we shall wish to recall Mr. Harrison and submit the preparation to the arbitration of the Government analyst?

The witness said he entirely agreed with that course being taken. As to the analysis in *Secret Remedies*, he said that one of the ingredients which had been entirely overlooked was discoverable by chemical analysis, and was an important constituent having a useful therapeutic effect. It was a simple and commonly prescribed drug. One of the drugs used contained a very minute preparation of an alkaloid; this was so minute as to be probably undiscoverable in a single powder. The statement in *Secret Remedies* as to the percentage of ash had no definite meaning, as the ash would be a mere product of the incineration of any vegetable matter present. The therapeutic effect of the formula given in *Secret Remedies* and the actual prescription used by the makers would be entirely different. He had carefully analysed a packet of twenty-four powders, and found that their composition agreed with the formula disclosed to him by the company. He also analysed the powders in 1904 and 1909 with practically identical results.

The Chairman: Does it surprise you that an analyst of presumably high standing should make a public statement regarding the contents of a medicine which gives an entirely erroneous impression?—It not only surprises me, but I think it is a very regrettable matter.

Is the analysis in this case difficult from an analyst's point of view?—It ought not to be difficult to a chemist who had a knowledge of drugs and was accustomed to handling them. I do not wish to say anything against Mr. Harrison, but I think if he had possibly taken a little more trouble, or consulted a brother chemist who possibly might know a little more in that particular direction, I think he would have made a better analysis.

Mr. Harrison made a great number of analyses?—Far too many, I imagine. These things take a very long time if one has no information as to the formulae.

But there is no special difficulty about this particular analysis?—The ordinary analytical chemist might find great difficulty in these matters.

Dr. Chapple: Why?

The Witness: Because it deals with chemicals not in the ordinary ken of the analytical chemist.

The Chairman next invited the witness to deal with the therapeutic effect of the powders, and particularly with the effect of calomel upon young children. The witness replied that he could quote some medical opinions; he was not a medical man but a chemist.

The Chairman: That places the Committee in a difficulty. Mr. South referred us to you on this point, so we refrained from asking him any questions.

In reply to Dr. Chapple, the witness said the analysis in *Secret Remedies* only omitted one ingredient; it was accurate in all other respects.

THE ASSOCIATION OF PUBLIC VACCINATORS OF ENGLAND AND WALES.

ANNUAL MEETING.

THE annual meeting of the Association of Public Vaccinators of England and Wales was held at the Hotel Cecil, London, on January 31st. The chair was occupied at the commencement by Dr. A. H. MARTIN (Evesham), the retiring President. The annual report and financial statement were approved and adopted. The TREASURER reported a satisfactory balance on the year's working. Drs. Major Greenwood (London), Sharman (London), Bateson (Bradford), and Rose Smith (Liverpool) were elected to fill four vacancies on the Council. Dr. Arthur Maude (Westerham) was elected President for the present year. The retiring President was heartily thanked for his services during the past year.

The PRESIDENT gave an interesting address based on a recent report by Professor Kirchner, issued by the German Government. Dr. Maude suggested that our Government would do well to issue a translation of the report. Interesting extracts were then read from a volume of biographical essays recently published in America. The eulogy of Jenner was the most warmly expressed of all.

Annual Dinner.

In the evening the annual dinner was held at the Hotel Cecil. In the absence of Dr. W. T. Williams (Manchester), Dr. HOLMES (Liverpool) proposed "The Guests," and Sir JAMES CRICHTON-BROWNE, who replied, said he came to that dinner with mingled feelings of pleasure and pain. It was a pleasure to meet a large body of professional brethren who were engaged in an eminently useful public work, and who were diligently and efficiently safeguarding the national health. It was a pain to reflect that those services were not more justly appreciated and fully utilized. The number of conscientious objectors who proved to the satisfaction of one stipendiary magistrate or two magistrates in petty sessions—a discrete or a confluent authority—that they believed that vaccination would be prejudicial to the health of their offspring was increasing largely, and it seemed to him to be just another illustration of the spirit of lawlessness and defiance of authority that was abroad and of the apathy of the public on questions vitally affecting its welfare. It was difficult in these days for the still small voice of scientific wisdom to make itself heard, but any turbulent and noisy coterie was allowed to influence the course of legislation. Sir James next paid a tribute to Dr. Monckton Copeman's scientific work in connexion with vaccination, and made an amusing reference to the possibility of a militant agitation against vaccination. As a patriotic Scotsman he sometimes thought that Jenner's investigations and experiments might have been stimulated by conversations he had with John Hunter, that illustrious surgeon and anatomist, and that thus Scotland had had a finger in the pie. As in the case of many other great and beneficent inventions and discoveries, vaccination was anticipated in popular belief before it assumed a scientific shape.

Surgeon-General G. J. H. EVATT, C.B., with whose name also the toast was coupled, expressed his pleasure at being associated with an organization of medical men charged with the important public duty of applying a scientific preventive remedy to the population against a very dreadful disease of which he had seen so many terrible example in his experience among unvaccinated people in India. Medical men knew the truth about these things, and it was their duty to educate the people.

The PRESIDENT (Dr. Maude) gave the toast of "The Association of Public Vaccinators of England and Wales." He contrasted the state of affairs in Germany with

England. In the former the Government issued concise and convincing literature to the public on vaccination. The association had for several years been doing a valuable educational work. It owed this largely to one man (Dr. Drury), who had been doing almost more than they could conceive it possible for one man to do. In this country the Government gave no help. The association was doing useful work, and must keep on doing it because the red terror was going to arrive. The President concluded with an appeal for increased membership of the association.

Dr. A. E. COPE, who responded, referred to the work of the Organizing Secretary (Mr. Charles Greenwood), and that of Dr. Drury, who seemed to him to be an instance of multiple personality. With Dr. Maude as President the association should have a bright and useful year.

A programme of songs and duets was provided, which contributed to a most enjoyable evening.

ONE HUNDRED YEARS AGO.

THE FASTING WOMAN OF TUTBURY.

IN February, 1813, the medical profession was beginning to unmask the imposture of the fasting woman of Tutbury, and our brethren of those days were reading Dr. Henderson's "Observations on the Case of Ann Moore" in the *Medical and Physical Journal*.[1] Ann Moore, by reason of her resolution and cunning and on account of the notoriety she attained to, has made her way into the pages of the *Dictionary of National Biography*;[2] and in the same work[3] is to be found a short account of the life of Dr. Alexander Henderson, who was instrumental in breaking up the fraud. The former gets 120 pages in the *Dictionary* and the latter 29!

Ann Moore was born at Rosliston in Derbyshire in 1761, and was the daughter of a day labourer named Pegg. She was a good-looking girl; she was married to a farm servant named James Moore when she was 27 years old, and was afterwards deserted by him. She had a large family; but, falling into poverty, she went to Tutbury in 1800 to try to find honest employment. At Tutbury, near Burton-on-Trent, made notable by its castle, which had served as one of the prisons of Mary Queen of Scots, Ann Moore spent the next thirteen or fourteen years of her life. She soon began to attract local attention by her long fasts, and in the years 1806–7 she was said to have lost all desire for food. It is noteworthy that she was then 45 years of age, and had, therefore, arrived at the climacteric. A steadily increasing stream of visitors came to see her and went away wondering; pamphlets began to be written about her; it was suggested that her appearance might possibly presage the coming of a famine, and finally a "watching" took place in 1808 and lasted for sixteen days. At the end Ann emerged triumphantly, having actually improved in health and spirits under the test; at least so it was given out. The crowds of visitors increased, and their sympathy must have been of a substantial nature, for in 1812 Mrs. Moore deposited £400 in the funds. In the summer of that year, however, Dr. Alexander Henderson, an Aberdonian (hard-headed we may imagine), a graduate of Edinburgh University (of 1803), and physician to the Westminster General Dispensary, paid a surprise visit to the "fasting woman of Tutbury."

He, with two friends, were in Staffordshire on other business, and it seemed a good opportunity to inquire into the story of the fasting woman. "We lost no time," wrote Dr. Henderson, "in proceeding to the dwelling of Ann Moore, whom we found sitting up in bed. . . . She did not seem in the least discomposed by our abrupt entrance, though, on reaching the house, some bustle was heard in the upper story, as if preparations had been making for our reception." Dr. Henderson noticed that Ann was rather thin, that her abdomen was not contracted, that the beating of the abdominal aorta was not more easily felt than usual, that the pulse was 94 (firm and regular), that the skin was moist, that there was no deficiency of saliva in the mouth, that her voice was strong, and that she could move her arms and fingers with considerable force. He also smelt an offensive urinous odour. Mrs. Moore told them that she had tasted no solid food for upwards of five years, and no drink for nearly four years, that she had passed no urine for three years and no faeces for five, that she had not slept nor laid down in bed for more than three years, that she took snuff, that she had fits, that she could not open her mouth, and that she had lost the power of the fingers of her left hand. We can imagine that Dr. Henderson pricked up his ears when he heard her state that she had passed no urine for three years, and that he made a mental note when he observed her move one of the fingers of her left hand.

In the article which Dr. Henderson contributed to the *Medical and Physical Journal* (loc. cit.) on his return to London, he enumerated fourteen circumstances which in his opinion invalidated Mrs. Moore's assertions. It would be wearisome to enumerate them all, but to some reference may be made. He pointed out the natural and healthy appearance of her face; the strength of her pulse, muscles, and voice; the moisture of her mouth, nostrils, eyes, and skin; and the entireness of her intellectual faculties. "If," he wrote, "the functions of the stomach were entirely suspended, it is not likely that the saliva would continue to be regularly supplied." He touched next upon her "notorious immoral character," upon the obvious interest which she and her attendants had in supporting the deception, and especially upon the imperfect manner in which she had been watched (of this there could be no question), along with her dread of a repetition of the watching, and indeed of all experiments whatever. There could be no doubt that she was passing urine; her statements varied and contradicted each other, and her actions were not consistent with her statements. Dr. Henderson gave instances of these inconsistencies. He believed that he had collected "a sufficient body of evidence to prove that there were no solid grounds for supposing that the order of Nature was subverted in the person of Ann Moore." He wrote his report at Golden Square, the date being November 25th, 1812, and Dr. Samuel Fothergill, one of the editors of the *Medical and Physical Journal*, published it in February, 1813.

This was the beginning of the end; a second watching was insisted upon and was begun on April 21st; only ministers of the Church of England, medical men, and magistrates were allowed to take part in the watching; for seven days Ann Moore took no food, but on the ninth day she was so weak as to be in danger of death, and a few hours later she made confession of the fraud that she had practised, admitting that she had received food in liquid form from her daughter when she kissed her night and morning. The Rev. Legh Richmond, Rector of Turvey, in Bedfordshire, one of the watchers, wrote a full account of these occurrences, and this was published in the same medical journal in June of the same year (1813).

It should be added, to give Dr. Henderson full credit for his share in detecting the fraud, that he had published a little book on the matter before the second watching took place, and that in it he pointed out the parallel which existed between the case of Ann Moore and that of Anna Maria Kinker, the notorious fasting woman of Osnabruck. Indeed, this was an age of fasting folks, for Chambers, in his entertaining *Book of Days*,[4] tells of Mary Waughton, of Wigginton (also in Staffordshire); of the French girl, Christina Michelot; of Ann Walsh, of Harrogate; of the fasting boy of Chateauroux; of Katherine M'Leod (Pennant's fasting woman of Ross-shire), and of the Swabian woman, Monica Mutcheteria; all these persons had lived in the second half of the eighteenth century.

This note on the fasting woman of 100 years ago may fitly close with the editorial comment in the *Medical and Physical Journal* for May, 1813:

> Our readers are now in possession of the facts which the industry and ingenuity of Dr. Henderson have enabled him to acquire upon a very curious subject. The public appears to take considerable interest in it; for, though honest John Bull is a very credulous animal, he is very angry when he discovers that a deception has been practised upon him.

[1] *Med. and Phys. Journ.*, xxix, pp. 109-118, February, 1813.
[2] *Dict. Nat. Biog.*, xxxviii, pp. 339, 340.
[3] *Dict. Nat. Biog.*, xxv, p. 395.
[4] Chambers, *Book of Days*, vol. i, p. 554.

Nova et Vetera.

A CLERICAL PIONEER OF VACCINATION.

THE following unpublished letter of Edward Jenner, the discoverer of vaccination, to the Rev. William Finch of St. Helens, Lancashire, and some account of the experiments of the latter, may be of interest to your readers.

Sir,

Knowing that you have carried the vaccine inoculation to a considerable extent, I take the liberty to request the favor of you to give me the result of your practice. As it is probable that the subject may shortly undergo public discussion I wish to be prepared with Testimonies of the efficacy of the Cowpox as a preventive of the Smallpox from the most respectable authorities. I am no stranger to that mass of evidence you were so good as to publish in favor of the new practice in the Medical and Physical Journal; but on the present occasion written testimonies will have a greater weight.

I by no means wish you to go into detail; it will be sufficient if you will kindly state the numbers you have inoculated and then adduce your proofs that the Inoculation protects the Constitution from the contagion of the Smallpox. If you please you may add too your opinion of the utility of the discovery.

I remain Sir,
With great respect
Your obedt. humble servt.
E. JENNER.

London
Bond Street
136
Feb. 7th 1802.

P.S. Pray accept my thanks for the obliging manner in which you were good enough to mention my name in the Medical Journal.

The letter is addressed to "The Rev. W. Finch, Minister of St. Helens"; it bears several postmarks, having been mis-sent to St. Helens, Isle of Wight, and St. Helens (? Church), London. The London postmaster made the note "Try Lankeshire." There was 11s. 8d. postage to pay on it. It is now in the possession of Mrs. James Hesketh, late of Bolton, a great-niece of the Rev. W. Finch.

This clergyman, great-great-uncle of the present writer, was born at Wigan in 1753, and was educated at the Wigan Grammar School. He was chief usher of the school in 1775 when he received the living of St. Helens, which he held until his death in 1815. The living of St. Helens was a perpetual curacy, the great tithes going to King's College, Cambridge, and the small to the Vicar of Prescot, who, however, had no control over the parish, the appointment being in trustees. The title "Minister" arose from the incumbent in 1662 not having complied with the Act of Uniformity, and continued in use until 1868, when perpetual curacies were abolished, and all incumbents not rectors were made vicars.

The "mass of evidence" alluded to in the letter was published in the *Medical and Physical Journal*, which was continued after 1815 as the *London Medical and Physical Journal*.

The Rev. William Finch wrote under date of March 11th, 1800:

On the 17th of November last I inoculated a child of 8 months old with a lancet, armed the eighth day preceding with vaccine matter, and sent me by the Rev. R. Holt, Rector of Finmere, Oxfordshire.

The identity of this child is shown by the following extract from the St. Helens Parish Church register kindly made for me by the Rev. Albert Baines, M.A., the present vicar:

1799. Daniel, son of David Scarborough, Clogger, of St. Helens, Born 4th March: Baptised 31st March. This child on the 17th November following was the first in these parts that was inoculated with Vaccine Matter, By me, W. Finch, Minr.

The article in the journal goes on to describe a normal case of vaccinia. Other children were inoculated from the first child and others from them, the total reaching 714. Three cases varying from the normal are described.

On February 25th and 26th he inoculated with variolous matter twenty children whom he had inoculated with vaccine matter in November and the beginning of December. To use his own words, "The result of the experiment is that they have all entirely resisted the infection." He then goes on to say: "Only two produced, each, on the place of insertion, a small POCK, if such it can be denominated, of about quarter of an inch in diameter."

The paper concludes as follows:

Such are the nature, process and effects of inoculation here with vaccine matter; and this may serve as an additional evidence to the testimony already given of its efficacious properties if you think it worthy of a place in your very useful and instructive journal. Upon contemplating its astonishing powers, I could not help falling into this reflection—If the observation of the naturalist be true "Wherever a poisonous plant grows its antidote is found," why may not the same observation hold good in this respect also? If it could be proved that the human constitution imbibes that virulent malady the smallpox from the milk or animal diet which the lowing herd furnishes, by parity of reasoning, then in the same quarter its counteracting principle subsists. Nature is uniform in all her laws. Everything she generates has its opposite. There is no evil without its corrective and here she produces an effectual remedy for that malignancy. It surely cannot be too highly prized. To show the discoverer of it every praise, every gratitude is due. The joy and delight it diffuses through every family here is inexpressible, and it may not be unbecoming to subjoin, it gives me the liveliest satisfaction and pleasure to hear the people exclaim—"Blessings on the head of him that first wrought such happiness for us!"

I am, Gentlemen,
Your most obedient humble servant,
W. FINCH,
Minister of St. Helens.

March 11th, 1800.

HERBERT PECK, M.D., D.P.H., etc.,
Barrister-at-Law.

Chesterfield.

LITERARY NOTES.

THE annual report of the Library Committee of the College of Physicians of Philadelphia contains a short disquisition on the proper disposal of pamphlets and reprints—a serious difficulty for every medical librarian, and a source of no little perplexity to many private individuals who have been taught by experience that a very common consequence of "making a clearance" is the discovery a few days later that one of the dusty, dog-eared rejected has suddenly become for the moment worth its weight in gold. Formerly the College arranged its unbound pamphlets and reprints by classes on shelves like books. This, as was to be expected, proved an unsatisfactory arrangement. Now the pamphlets and reprints are arranged by subjects; the proper subject-heading is written on each, and the set then arranged alphabetically under the authors' names. When a sufficient number of pamphlets on one subject has accumulated they are bound in a volume, and the subject-title of the volume is entered in the general catalogue of the library. Each separate pamphlet or reprint is not entered in the catalogue, but the inquirer looks up his subject in the general catalogue, gets the volume or volumes of reprints and pamphlets on it, and then finds a collection of original articles arranged in the alphabetical order of authors' names, and all belonging more or less to the same period. Each volume should be dated on the back, and there should be bound in as a fly-leaf a list of its contents; these two points are not mentioned in the report from which we quote, but no doubt they have received attention. It may be added that the library of the College has an important collection of early printed books and manuscripts; it has a special fund for the purchase of such rarities, but it has also many individual benefactors, among whom, last year, Dr. George E. de Schweinitz seems to have been the most generous.

It is to Frascatorius, the philosopher-physician of Italy who lived in the sixteenth century, that we are indebted for the word "syphilis." He gave the title, "Syphilis,"[1] to a poem, which has been described by Osler as the most successful medical poem ever written. He does not appear to have assigned any reason for originating this word, and its etymology has been a matter of much speculation. By some authorities the Greek συς-φιλοι—swine lover—has been accepted as the origin; others, again, argue that its derivation is from σιφλός—maimed or impotent. But, however this may be, the fact remains that the poet-physician of the sixteenth century described the disease so accurately in all its essentials that his account of it remained unsurpassed until well into the nineteenth century. Briefly, the poem of Frascatorius tells of Syphilis, a shepherd who kept watch over the flocks

[1] See a paper by A. T. Downing, M.D., in the *Boston Medical and Surgical Journal*.

of King Alcithous. Becoming incensed at a drought so extreme that the cattle perished for want of water, Syphilis blasphemed the Sun God, who, enraged, darted forth infection on earth, air, and stream, the unfortunate shepherd being himself the first victim of the disease.

> Syphilus ostendit turpes per corpus achores:
> Insomnes primus noctes, convulsaque membra
> Sensit, et a primo traxit cognomina morbus.

There is no description of the disease either in Hippocrates or Galen, and it was in 1494 that Europe was first startled by a great epidemic. It was not, however, until the lifetime of Frascatorius that men emerged from ignorance to a knowledge of the disease. There were many speculations at the time as to the origin of the malady. Some insisted that it was brought from America by the soldiers of Columbus; but Frascatorius did not share this view, on the ground that the spread of the disease was too rapid. It was traced by others to the French and Spanish campaign in Northern Italy in 1494. The army of Charles contained many mercenaries, and indulged in scenes of the wildest debauchery as it passed through Northern Italy; after the retreat and disbandment of the army the various units—Spanish, German, Swiss, and French—are presumed to have scattered, carrying with them to their respective countries the devastating contagion. Matters got so bad in Paris, indeed, that a decree was passed in 1496 requiring all infected persons to leave the city within twenty-four hours. This was, however, by no means the first appearance of the disease in the civilized world, for Celsus, living in the first century before Christ, speaks of certain affections of the genitals, including ulcers on the glans penis, and Aretaeus, three centuries later, refers to a disease which destroys the uvula to the bones of the palate. From the evidence of Martial we cannot but believe that the ancestors of the present day spirochaete were well developed in imperial Rome. Horace, too, pointed out to the Romans of his day that the age was prolific in sins, which polluted even their offspring. During the first year or two of the fifteenth-century epidemic the disease was practically untreated by the physicians of the time, and quacks and charlatans had the field to themselves. When at last the profession began to pay attention to the disease, the use of mercury, originally introduced in therapeutics by the Arabs, began. Frascatorius, after setting out rules as to diet, says in the poem already referred to:

> The greater part, and with success more sure
> By mercury perform the happy cure;
> A wondrous virtue in that mineral lies.

Lard was used as a vehicle mixed with larch gum and turpentine, and with this preparation the whole body was smeared with the exception of the head and breast. The patient was then sweated profusely under thick bed clothing; this was repeated for ten days. Mercury soon fell into disuse, however, and in turn infusion of guaiacum wood, sarsaparilla, and sassafras became the popular remedy. In 1538, however, mercurial inunction came back into favour, and the drug was administered internally in the form of the red precipitate. In 1821 tincture of iodine was first used locally in specific ulcers of the throat with good results, and to Dr. Wallace of Dublin belongs the honour of first using potassium iodide in syphilis. The mercurial treatment of syphilis by inunction is at the present day much as it was in the time of Frascatorius, and indeed, until Schaudinn demonstrated the *Spirochaeta pallida*, and Wassermann the reaction bearing his name, and finally, until Ehrlich gave salvarsan to the world, we have been content, for three hundred years, to follow in the footsteps of the old poet-physician of Italy whose inspiration first gave this disease the name it bears.

We have received a note from Mr. C. Strickland, M.A., travelling medical entomologist to the Royal Society, respecting the word employed in our notice of Professor Minchin's *Introduction to the Study of the Protozoa*, in the JOURNAL for December 7th, p. 1612. He agrees that the use of the adjective "chromatinic" for "chromatic" is to be commended, and that Professor Minchin's substitution of "chromatinic" was well advised. Mr. Strickland is of opinion that "chromatic" is an absurd derivative from "chromatin," and he employed the newer and more correct word himself in his paper on *Herpetomonas luciliae* in *Parasitology*, 1911. "Chromatic," as we know, is an English word well accepted in general literature. In Murray's *New English Dictionary* it is defined as (1) "of, or belonging to colour or colours; consisting of or produced by colour (chiefly a scientific technical term)"; (2) "a term used in music." It is clear, therefore, that giving the word a third application is highly inadvisable; the more so as in the *Standard English Dictionary* "chromatic" is already recognized as a scientific technical term. Therefore its use in science in a quite different sense to that usually understood is to be avoided as liable to cause confusion.

A catalogue of second-hand books issued by Henry Sotheran and Co., 140, Strand, and 43, Piccadilly, contains a number of books from the remaining portion of the library of the late Lord Lister. There are nearly 4,000 volumes, and the books on medicine, Quakerism, Scotland, and theology are classified under those headings. The first two entries have a special personal interest; the one is a copy of Æschylus inscribed "Joseph Lister, 17.10.1845," and the other is a copy of the fourteenth edition of *Evenings at Home* in four volumes inscribed on the fly-leaf of the first, second, and fourth volumes, "Joseph Lister from his Papa. 17th of 4th Mo. 1833," when the child was six years old. The boy's progress may be traced in other entries, as in the inscription in Lindley's *School Botany*, "Joseph Lister, 4th month, 1844," and in Hutton's *Recreations in Mathematics and Natural Philosophy*, inscribed "Prize Copy 'to Mr. Joseph Lister, of Upton, Essex, from University College, London, as First Prize in the Experimental Class of Natural Philosophy.'" Some of the volumes in the list, it may be noted, were originally in the library of Professor Syme, Lord Lister's father-in-law.

SCIENCE NOTES.

THE physiological functions of the ductless glands have been ascertained by the administration of their extracts on normal animals, by the results that follow on their removal, and by the train of morbid symptoms that ensue when they are the seat of gross lesions. But very little is known of the changes that ensue secondarily in them in diseased conditions of the body. The suprarenal gland and adrenalin, its chief but probably not its only secretion, have been most fully studied. Ribadeau-Dumas and Harvier have found various striking changes in the suprarenals in diphtheria, typhoid fever, pneumonia, and scarlatina. The changes were albuminoid and fatty degeneration, with oedema or with haemorrhage, in both cases leading to necrosis, and are probably to be attributed to the intoxication. In view of the adrenal insufficiency brought about by these diseases, we are led to conclude that the life of the individual is thereby compromised, and various observers consider that a rational treatment of fevers ought to include the administration of extract of the whole suprarenal and not of adrenalin alone. But observations on pathological conditions of the suprarenal should not too hastily determine the therapeutic procedure, for probably no organ, investigated *post mortem*, shows more frequent departures from what would be considered a typically normal condition. Even in Addison's disease, which is often associated with tuberculosis of the adrenals, not infrequently the glands are found in a condition that may seem identical with that of adrenals from other totally dissimilar diseases; and, on the other hand, gross lesions of these glands may exist without, so far as is known, any concomitant symptoms of a striking nature. We do, however, know the potency of adrenalin, and opotherapists can be forgiven for the administration of the extract over a wide variety of diseases, and perhaps credited with cures or ameliorations of diseased conditions less tractable to other medicaments. In a large number of cases of Addison's disease suprarenal extract is without effect, in others the clinical facts of decrease of asthenia and increase of arterial tension are noticeable, but such cases are rare. It has been used with apparently good effect occasionally in intractable vomiting of pregnancy and in osteomalacia, but the repeated administration necessary is not without grave danger, and greater success has been claimed for pituitary extract, which has very little toxic action, and which can be injected in larger doses repeatedly for a much longer time.

British Medical Journal.

SATURDAY, FEBRUARY 15TH, 1913.

THE METROPOLITAN WATER BOARD AS A HEALTH AUTHORITY.

ON March 15th the King, accompanied by the Queen, is to open the new reservoir built for the Metropolitan Water Board at Chingford. The ceremony of cutting the first sod—the public commencement of the work—was performed nearly five years ago. Now the reservoir is nearly completed. When finished, it will have cost about £550,000, will be capable of containing three thousand million gallons, and the area covered by the water will be 416 acres. After storage for a sufficient period, the water will pass along a canal one and a quarter mile long to the filter beds at Lee Bridge, and will ultimately be distributed to 1,600,000 people as a good, wholesome, drinkable water.

The Londoner, accustomed to take everything in the complex whole of which he is a unit for granted, may have been tempted to ask why Their Majesties should be willing at a trying time of the year to undertake a somewhat tedious and dreary journey in order to open one more reservoir. Doubtless it is because the King rightly looks upon the completion of this large work as of vast importance to the health of the metropolis and the well-being of the people. This side—the health side—of the Water Board's work is the one which should be emphasized in connexion with the opening of this great undertaking.

For some time after the formation of the Metropolitan Water Board the main idea and controlling influence of its policy was the commercial aspect of so great an enterprise. The buying out of the eight water companies by the Board at the huge cost of £47,000,000, the great yearly income of £3,000,000, the gigantic task of supplying to each one of over seven million souls 34 gallons of water a day, distributing it in 6,300 miles of pipes over an area of 620 square miles, so impressed many interested in the work of the Board that the commercial idea was the only one they would entertain. Slowly, it may be, but surely, the health-idea has penetrated to the heart of the Board's work and to the minds of the people of London, so that both are now prepared to say, with Sir John Simon, "water is the power of life and death."

Evidence of the truth of this saying is unfortunately plentiful in the history of the metropolis, for if we look at the effect of two water-borne diseases, cholera and typhoid, we can see the ravages they used to make in London's population. In the various cholera epidemics—1832, 1849, 1854—the deaths from this disease were 31.4, 61.8, 42.9 per 10,000 people. Fortunately the lesson of such events has been taken to heart, and through the care of municipal authorities in safeguarding our water supply, aided by the alertness of the various port authorities, this country is kept cholera free. But enteric fever is still with us, and the outbreaks of this disease in Maidstone, Lincoln, and Swanage, confirm the finding of the Royal Commission on Rivers Pollution that "the admixture of even a small quantity of these infected discharges with a large volume of drinking water is sufficient for the propagation of those diseases amongst persons using the water," a conclusion supported by scientific experience throughout the world. London's record in this connexion is extremely interesting and instructive, for if we take the annual mortality from enteric fever per million persons living in London over a considerable period we find that in 1838–40 it was 1,339, in 1841–50 it was 979, and in 1861–70 it was 904. In 1871–80 it fell to 244, in 1891–1900 to 136, and in 1903 to 81. In 1904, when the water supply was transferred from the companies to the Water Board, the enteric fever rate was 63 per million, and by 1910 it had still further declined to 43 per million. It is not easy to estimate the commercial value of the difference in the mortality from enteric fever of 1,339 per million in 1840 compared with 43 per million in 1910; but if the difference be taken as, in round numbers, 1,300 per million, then by the last census population of 4,500,000 we get a saving of life of 5,850. Now, what is the money value of a life? Dr. Farr answered this question in the thirty-ninth annual report of the Registrar-General (1876). He calculated that an agricultural labourer at the age of 25 was worth £627, and that, taking the whole population, the value per head was £150. Since 1876 money has become cheaper and wages have gone up; but even at the low price of £150 per person London saves £877,500, which if it could be turned into hard cash and presented to the Water Board would be a godsend to the few "commercial members" of the Board who view with alarm the necessity of making a deficiency rate. This life-saving health-idea should also lead those who have to pay the rates imposed by the Water Board, which are here and there somewhat heavy, to look with a more kindly eye and speak with a less bitter tongue of the successful but costly undertakings made for their benefit.

London is not singular in making a huge expenditure to secure this necessary of life—a pure potable water supply. Manchester, Glasgow, Liverpool, and Birmingham have gone to Thirlmere or Loch Katrine, or to the mountains of Wales, and gigantic works are in progress to bring the superfluous waters of the moorlands of Derbyshire into the homes of the workers in the Midlands. But the problem has been more difficult for London. For whereas Liverpool or Birmingham could buy up a valley and convert it into a lake or a chain of lakes, having to take heed only that the pure water of the moorlands shall not be polluted by the scattered habitations of man and then to carry it across country, London has to start with sources of supply in thickly settled valleys where initial contamination cannot be prevented.

Undoubtedly the work necessary to supply the consumers in the Metropolitan Water Board's area with a plentiful supply of good water is a costly undertaking, for the reason mentioned. Over 74 per cent. of the water supplied comes from contaminated sources; 60 per cent. comes from the Thames and 24¼ per cent. from the Lee; and before it is safe to drink the water of these rivers it must undergo a costly process of purification.

The first step in the process of supplying London is to buy the water from the Thames and Lee Conservancies at an annual cost of £50,000. Then comes the erection of pumping stations and engines and of reservoirs for storage, active and passive—that

is to say, for quantity and quality. Next comes the making of filters, service reservoirs, and all the consequential expenditure for distribution connected with them. The total capital expenditure on these works since the Board became the water authority down to March, 1912, has been nearly three millions sterling. If we take the works completed since the Water Board took over the undertaking and compare them with the companies' figures, we find that the storage reservoirs for unfiltered water was under the companies 4,007 million gallons, and those added by the Water Board 5,758 million gallons, making a total st. rage of 9,835 million gallons, with all the other connected works in proportion. Moreover, a recent Act of Parliament gives the Board power to construct reservoirs at a cost of £4,100,000. Thus the Water Board has in the past done the necessary work for the supply of good water to its customers, and there is no indication that it will fail in its duty in the future.

To check the engineers in carrying out their duty in respect of the purifying process the Board has a water examination department, and an excellent staff in a well equipped laboratory takes samples from filters and wells, hydrants and taps, filtered and unfiltered sources, and subjects these samples to a drastic examination, chemical and bacteriological, day in, day out. During the year ending March 31st, 1912, nearly 15,000 samples of water were so examined. In this laboratory research work also is carried on and many valuable reports have been issued, such as those on the vitality of the typhoid bacillus; on the effect of storage on the bacterial content, and on the softening, purification, and sterilization of water. These reports have been found exceedingly useful not only to London, but to water authorities everywhere. So it comes about that the policy of the Water Board, the money of the ratepayers, and the devoted services of the officers, all conspire to carry out the great central notion that the health of the consumer is the thing that pays in a water supply.

THE ALLEGED DANGER OF THERAPEUTIC PROGRESS.

THE racial aspect of medical progress, a subject which was forcibly discussed by Sir James Barr in his presidential address at the annual meeting of the British Medical Association at Liverpool, is not escaping the attention of transatlantic thinkers. In a contribution to *American Medicine*[1] Mr. Lawrence Irwell invites his readers to accept the conclusion that therapeutic discoveries are not necessarily the unmixed blessing which at first sight they might appear. He argues that it is by the elimination effected by fatal diseases that the strength of a community is maintained; and that whenever a malady, hitherto almost invariably fatal, is added to the list of curable ailments there arises a new danger of national deterioration. Individuals who owe their survival and chance of bringing children into the world, not to their own inherent soundness, but to medical knowledge and skill, are, he contends, racially parasitic individuals, and are the source of this danger. He gives as a familiar instance the saving of life effected by the modern operation for the removal of adenoid growths; many of the individuals thus enabled to survive no doubt become useful citizens, but what percentage of them, he asks, are desirable parents from the point of view of national physique? On the other hand, he refers to the fact that certain forms of constitutional stamina, in particular that which confers the power of resisting infective disease, are favoured by the herded conditions of civilized life. In matters of health, and in most others, things are not always what they seem; a pale and sickly clerk, on exposure to infection, may reveal an unsuspected power of resistance, while a splendid savage, belonging to a tribe which has never been submitted to the selecting power of the microbe in question, will almost inevitably succumb. Mr. Irwell believes that Jews, although liable to tuberculous infection, have by selection achieved a considerable immunity in respect of its fatal effects. "It is correct," he thinks, "to say that tubercular Jews usually continue to live, and death is, as a rule, due to some other cause." In cities where the coloured population predominates, the much greater mortality of tuberculosis among the coloured than the white members infected is in all probability due to the fact that the white man, having been for a much longer time subjected to urban conditions, has undergone selection by the tubercle bacillus. The same is true of the other great scourges of civilization—small-pox, alcohol, plague, and the venereal diseases—each of which, when introduced to a community affording virgin soil for its ravages displays a very high destructive power. Mr. Irwell, therefore, would seem to be numbered among the followers of Dr. Archdall Reid, and he goes on to maintain that, while the tendency is for the susceptibility of civilized communities to infective diseases and to alcoholism to decline, there are other forms of disease which appear to be steadily increasing. In the United States chronic nephritis and circulatory diseases in general are becoming distinctly more prevalent, a fact which Mr. Irwell attributes in part to excessive meat eating.

In estimating the validity of the assertion that therapeutic progress, in common with other improvements of the environment, constitutes a real danger to national stamina, the verdict will obviously depend in the main on the relative importance of the factors of nature and nurture. The late Sir Francis Galton arrived at the conclusion that the importance of the former altogether overweighed that of the latter. The impression produced on his mind, after a review of the available evidence, was "one of some wonder whether nurture can do anything at all beyond giving instruction and professional training."[2] But it should be observed that in Galton's investigations the differences of environment considered were by no means of an extreme kind. Dr. Neave has recently advanced evidence with regard to the physique of school children in different areas of Manchester tending to a contrary conclusion.[3]

That any amelioration of the environment favours the survival of weaklings is a self-evident proposition, but Weismann's contention that, natural selection being in abeyance, their defects will be generalized by panmixia, is open to question, for the paramountcy of natural selection as a condition of forward evolution is at the present moment one of the most controverted points of evolutionary doctrine. Natural selection is, after all, a negative principle; it is to the positive aspect of the problem that the main interest has now shifted—namely, to the conditions that determine favourable variations and the possibility of bringing these under prescient control.

[1] Disease as a Factor in the Evolution of the Human Family. By Lawrence Irwell, M.A., B.C.L., *American Medicine*, December, 1912.

[2] *Inquiries into Human Faculty.*

[3] Cf. *The Medical Officer*, January 25th, 1913.

THE ANTARCTIC DISASTER.

OF the four who were with Captain Scott at the South Pole on January 18th, 1912, Dr. E. A. Wilson was one, and he perished with his leader from exposure and want during a blizzard about March 29th, when the party was only eleven miles from a well-stocked dépôt, and had accomplished the longer part and, as far as the surface conditions went, the worst part of the return journey. There, short of food and of fuel, they were held by a prolonged blizzard, and died together in their tent. One of their party, Captain Oates, who had broken down in health, had disappeared into the storm some ten days earlier. The fifth member of the party, Petty Officer Evans of Rhosilly, near Swansea, died on February 17th. He had broken down, and his death was accelerated by concussion of the brain sustained on the Beardmore Glacier. Captain Scott's last note and appeal was written on March 25th, 1912: "We are weak, writing with difficulty." He acknowledged himself beaten by the elements. "We took risks—we knew we took them. Things have come out against us, and therefore we have no cause for complaint, but bow to the will of Providence, determined still to do our best to the last. . . . Had we lived I should have had a tale to tell of the hardihood, endurance, and courage of my companions which would have stirred the heart of every Englishman."

The last words of Captain Scott, and the story of the courage and determination shown by the men he led, have gone to the heart of every man and woman in the British Isles, and his appeal that those who depended on them shall be properly cared for will not go unheeded. The Prime Minister gave expression to the general sentiment when he said in the House of Commons on Tuesday that the last message of Captain Scott was one of the most moving and pathetic utterances in the annals of this country of a brave and enduring man face to face with a tragic and noble end of a career of self-devoting service, and would not fall on deaf ears. The Admiralty has already issued a notification that the circumstances in which Captain Scott and his comrades lost their lives prove the constancy and resolution with which they carried out the duty for which they volunteered, and that consequently the loss of Captain Scott and Petty Officer Evans is to be regarded as if they had been killed in action. The medical profession will likewise desire to do every honour to its member who died with Captain Scott.

Dr. E. A. Wilson, who was the son of Dr. E. T. Wilson, of Cheltenham, took a first class in the Natural Science Tripos, Cambridge, and before graduating M.B. in 1900 went through a medical course at St. George's Hospital, but he was by nature a naturalist. He early gave himself to studies of this kind, and utilized a very considerable artistic talent in depicting natural phenomena. He was a member of Captain Scott's first antarctic expedition in the *Discovery* in 1901, when he acted not only as medical officer but as vertebrate zoologist and artist. After that expedition returned in 1904 he was for some time field observer for the Grouse Commission, and eagerly accepted the post of Head of the Scientific Staff of the National Antarctic Expedition which left England in 1910. We hope to publish a fuller account of his career in a later issue.

The two medical officers of the expedition were Surgeon George M. Levick, R.N., and Surgeon Edward L. Atkinson, R.N. At an early stage two parties were formed, and of one of these—the Northern, under the command of Lieutenant Campbell—Surgeon Levick was a member. The other party was divided into two when Captain Scott's party of sixteen began the expedition to the South Pole on November 2nd, 1911, and Surgeon Atkinson was left with the remainder—or Western party. Members of the Southern, or polar, party were sent back at various stages in sections, and the final section which pushed on the last 150 miles to the Pole numbered five. They were expected back early in March, and Surgeon Atkinson organized a relief expedition under the leadership of Mr. Cherry Garrard, but was compelled himself to remain in charge of Commander Evans, who was suffering from scurvy. The relief party got to One Ton dépôt on March 3rd, but by the failure of the dogs' food and the bad weather were forced to return on March 10th, eleven days before Scott, Wilson, and Bowers established their last camp eleven miles to the south. Surgeon Atkinson with the only remaining man, Petty Officer Keohane, then made another attempt to relieve the Southern party, but in severe weather with inadequate resources they could do no more than establish another dépôt with provisions for a week. In April Surgeon Atkinson organized another expedition to relieve the Northern party under Lieutenant Campbell; it was stopped by open water, but the Northern party dug themselves into a snow drift, and lived through the winter with the help of a number of seals they were able to kill. A petty officer became seriously ill, but was taken on when the party moved away, after six and a half months, from their winter quarters, and quickly recovered after a food dépôt had fortunately been found. On October 30th, 1912, Surgeon Atkinson, who seems, throughout a most trying experience, to have shown admirable initiative, tenacity, and resource, organized another Southern search party in two sections—one under his own command; the other under that of Mr. Wright. One Ton dépôt was found in good order, and on November 12th Mr. Wright's section of the party came up to the tent containing the bodies of the three brave men—Scott, Wilson, and Bowers—who had died nearly eight months earlier.

The object of the Antarctic Expedition was scientific research, and a scheme had been carefully worked out which included the attainment of the South Pole, although that achievement was never regarded as a chief aim. That the scientific object of their work was uppermost in the minds of the small party that reached the South Pole is proved by the fact that in the tent with the bodies of the three last to survive were found every record of the journey, and geological specimens weighing 35 lb. which they had persevered in dragging with them to the end. These records and specimens are being brought home, and will undoubtedly prove of great scientific value.

It is not possible to form any trustworthy judgement on the causes which led to the catastrophe so near comparative safety. Clearly the immediate cause was the prolongation of the return journey, and this was in part due to unusually severe weather, but in part to the breakdown of one member of the party at an early stage of the return journey, and of another later on. Commander Evans, the second in command of the whole expedition, had suffered seriously from scurvy at an early stage, and it seems probable that the illness of the member of the Northern expedition which must have nearly brought it to disaster was due to the same disease. Such facts lend probability to the opinion expressed by Professor Nansen that the provisions may have been deficient in antiscorbutic properties, and that this

was the reason for the breakdown of two of its members, which seems to have been the determining cause of the destruction of the Polar party.

CLERICAL WORK UNDER MEDICAL BENEFIT.

IN every quarter of the country complaints have been made concerning the unnecessary demands made on the time of doctors who have joined panels under the Insurance Act in consequence of the great and unnecessary amount of clerical work entailed upon them. These complaints have had reference especially to the cumbrous day-book, unnecessary in its dimensions and the amount of detail required, to the prescription forms, and to the certificates to be given to insured persons in order that they may claim sickness benefit. The replies of Mr. Masterman in the House of Commons have indicated a recognition of the justice of the complaints received, and on February 6th the Insurance Commissioners in England issued a letter to the secretaries of Local Medical Committees in a large number of counties and county boroughs stating that the Commissioners had given careful consideration to complaints as to the difficulties experienced in filling up the forms of record which practitioners attending insured persons are required to keep, and had come to the conclusion that the information it is necessary to obtain could be recorded in a manner entailing less clerical work. Before coming to any decision, the Commissioners decided to invite to a conference medical practitioners able to express to the Commissioners the views and experience of those actually engaged in the treatment of insured persons. This conference was held on February 11th, and was attended by about ninety representative doctors. The proceedings were conducted in private, but we understand that the medical men present expressed their views freely, that a record was made of all the suggestions, and that it was promised that all the points would receive the careful consideration of the Commission. We understand also that the Commissioners gave a very sympathetic hearing to the representations made, and that the conference separated with the impression that immediate modifications in the forms, so that they shall entail less clerical work, are contemplated.

ATTEMPTED SELF-ABORTION.

THE attempt by the woman herself to produce abortion is unfortunately frequent in these days, and some midwives, it is said, go so far as to train their patients, teaching them the perilous art of self-introduction of the bougie. The contingent danger of perforation of the uterine walls is self-evident. Dr. John Douglas, of the Bellevue Hospital, New York, reports an instance in which this complication was followed by remarkable results.[1] A woman, aged 26, was admitted under his care last August on account of a tender, painful mass in the abdominal wall over the outer edge of the right rectus muscle, at the umbilical level. It had been present for a week, and was first ascribed to a fall against a chair. She had borne three children; a year before admission abortion was induced by a midwife, by the introduction of a Lisle thread bougie, which she afterwards gave to the patient to use should she become pregnant again. Ten weeks before admission, the period having been a fortnight overdue, the patient passed the bougie without causing herself much pain, and inserted a cotton tampon into the vagina. This tampon came out some hours later in the lavatory, and she thought that the bougie came away also, but she did not see it, though she remembered seeing the tampon. There was no further "history," beyond the appearance of the tender lump in the abdominal wall, no faintness, fever, or distension, nor even abortion, though she was really pregnant. The temperature was 99.6°, pulse 104, and the leucocyte count was 14,800, with 78 per cent. of polynuclear cells. Dr. Douglas made an incision through the integuments over the swelling, opening an abscess cavity well walled off by adhesions and apparently just beneath the peritoneum. Two ounces of pus, giving evidence of colon bacillus infection, came away, and a Lisle thread bougie 11¼ in. long, which lay curled up in the cavity, was removed. On the second day there was some bleeding from the vagina, and eleven days after the operation abdominal pain and free haemorrhage set in, a three months fetus coming away one day later. At the end of a week, after the application of the curette, the patient was discharged cured. Dr. Douglas discusses certain puzzling features about his case, which must strike every pathologist, surgeon, obstetrician, and gynaecologist. The point of perforation, and the question whether the peritoneum was perforated or the broad ligament opened up, the bougie entering the subserous connective tissue anterior to the parietal peritoneum, remains unsolved. The whereabouts of a bougie not properly accounted for, and the fact that if still in the patient's body it does not necessarily cause grave uterine haemorrhage, acute peritonitis, or even abortion, are matters which must not be overlooked.

[1] *Amer. Journ. Obstet.*, January, 1913, p. 25.

EPILEPSY.

L. W. WEBER has recently[1] urged that the clinical definitions of epilepsy should be revised. He objects to the somewhat reckless manner in which persons of various types are dubbed epileptics, and maintains that the evidence in favour of the supposition that Julius Caesar, St. Paul, Mahomet, and Napoleon suffered from epilepsy is so slight that it cannot for one moment be accepted. It is, he says, necessary to form a clear idea of what constitutes epilepsy before we can hope to advance in its treatment. He therefore selects a type and describes it as "true epilepsy." This condition is characterized by the periodic occurrence of convulsive attacks, associated with loss of consciousness, the periodic occurrence of temporary psychic alterations, which he describes as "Dämmerzustände" (the literal translation of this is "twilight conditions"), and lastly, a chronic course which leads gradually to a permanent psychic alteration, taking the form of a peculiar character and a peculiar form of dementia. To bring a case within the definition, the convulsions must be periodic, and must be attended at times at least with unconsciousness. The second point does not justify the diagnosis of epilepsy alone; nor is it always easy to observe the conditions of temporary clouded cerebration. The third point is highly important, and he goes so far as to state that when periodic fits and conditions of clouded cerebration have continued for five to ten years, and are due to a true epilepsy, the epileptic character and the peculiar dementia will certainly be found. Should these psychical changes not appear the diagnosis is not justifiable. He points out that true epilepsy always begins early in life. It is most frequent from the 6th to the 20th years of life; less frequently it begins earlier, and only rarely does it first manifest itself after 20. An affection associated with fits which begins after thirty years is not true epilepsy. He discusses the etiology at some length, and traces some cases to acquired cerebral disturbances, chronic poisoning, metabolic disturbances, and so forth, and finds that some cases develop on the basis of an inherited predisposition. He emphasizes that epilepsy is never inherited as such, but merely a predisposition. Pathologically chronic diffuse changes in the neuroglia, vessels and fibres are found according to the length of time during which the affection has lasted. In quite fresh

[1] *Muench. med. Woch.*, Nos. 31 and 32, 1912.

cases in which death follows as the result of the status epilepticus fine changes may be found. Passing on to other forms, he recognizes a condition of reflex epilepsy which he admits to be a subgroup of true epilepsy. At times these cases can be controlled by the removal of the area which delivers the exciting peripheral stimulus. "Gastro-intestinal epilepsy" is a term which merely indicates the origin of the determining factor of a certain class of true epilepsy. In objecting to the term "hystero-epilepsy," he points out that the combination of epilepsy and hysteria does not justify the fusion of the two conditions. Since the epilepsy is the more serious affection of the two, it is better to classify these combined cases under the epilepsies. Cases in which the usual signs of epilepsy, but without the fits, are present are often termed "psychic epilepsy," but Weber objects to the hazarding of the diagnosis unless the characteristics of the true epilepsy are present. The second large group are called the "symptomatic epilepsies." Here the secondary conditions need not be present; it suffices for the diagnosis that fits occur periodically, and that they are associated with loss of consciousness. This form may occur later in life, and to it belong the traumatic epilepsies, the alcoholic and emotional epilepsies, and the so-called senile or cardio-vasal epilepsies. Jacksonian epilepsy is also a symptomatic epilepsy. He insists that they never lead to the condition which he speaks of as true epilepsy.

THE SURGICAL TREATMENT OF PULMONARY CAVITIES.

G. BAER states that the chances of spontaneous recovery in the case of large cavities of the lung are bad, for the patient runs a great risk from haemorrhage, mixed infection, retention of pus, and secondary aspiration pneumonia.[1] While considering artificial pneumothorax the ideal method of treating these cavities, he points out that it not infrequently fails because the cavity was not compressed by the air in the pleural cavity. In a number of cases the upper third of a lung was converted into a sac firmly adherent to the chest wall. Resection of ribs in these cases could not lead to a satisfactory result, and the opening of the cavity would only be useful when a free flow of the contents did not take place through the respiratory passages. Schlange got good results by separating the wall of the cavity from the thoracic wall and plugging the extrapleural cavity with gauze. By experiment on animals Baer found that it was possible to separate the wall from the lung without difficulty. He then applied the method in the case of a man who was under observation in the Schweizerhof Sanatorium in Davos with a large cavity in the left lung. The cavity gave rise to considerable trouble and did not show any tendency to heal. The chest wall was opened by means of a rib flap, and the costal pleura was separated without difficulty. The cavity thus produced was plugged with vioform gauze. At first it secreted an increased quantity of muco-purulent material. After a week the gauze was changed, some difficulty being experienced in removing the packing on account of adhesions. Up to this time tubercle bacilli were found in the sputum, but subsequently no further bacilli were found. An attempt was made at a later date to make the cavity collapse better by tighter packing of the extrapleural space. This led to a small patch of necrosis, and the lung cavity was therefore opened with the thermocautery. The general condition of the patient continuously improved, and Baer proposes to fill the cavity with a paraffin melting at 42° C., as soon as possible. He gives various details in regard to the extrapleural separation and compression, and makes a number of suggestions in regard to the filling of the pulmonary cavity with a mixture of paraffin, bismuth carbonate, and vioform (iodochloroxyquinoline). He is of opinion that the method will prove valuable in a number of cases of cavity in the lung.

[1] *Berl. klin. Woch.*, January 20th, 1913.

CANCER OF THE COLON.

THE large intestine is much more commonly the site of a malignant new growth than is the small intestine, and the warning signs and symptoms are often so obscure that until the patient is actually *in extremis* from acute intestinal obstruction a diagnosis of the condition is attended with great difficulty. As Mr. Cunning points out in the lecture published elsewhere in this issue, the condition of complete obstruction is unfortunately far too frequently the stage at which the surgeon is compelled to operate, and the high mortality attending operations which attempt a complete removal of the growth causing the obstruction is considerably lessened if, in such a condition, temporary measures for the relief of the obstruction be adopted and the major operation deferred to a more advantageous occasion. Mr. Cunning even goes so far as to say that beyond quickly relieving the obstruction no examination should be made in these acute cases for the site, nature, and extent of the obstructing lesion, and he lays stress on the friability of the bowel and the great danger of peritonitis. The symptoms that should excite suspicion in earlier stages are, it must be confessed, not sufficiently marked to enable a diagnosis to be made without exploratory laparotomy—for example, what may have been considered a case of chronic appendicitis may prove to be cancer of the caecum, and vice versa. The occurrence of diarrhoea, not yielding to ordinary medicinal treatment, especially if combined with the passage of blood and mucus, and the onset of colicky pains after hot foods or drinks, are symptoms suspicious of chronic obstruction. At a later stage, as the constriction of the growth increases, constipation becomes more marked, and the most important sign of visible peristalsis, due to obstruction, should be sufficient to determine laparotomy. It has to be borne in mind that wherever there is an ulcerated surface there is almost necessarily a localized peritonitis. The treatment of malignant stricture of the colon depends on the condition of the bowel as found at the time of operation. It must be a temporary relief followed by completer operation if the condition is acute. If the growth be removable, then a large portion of intestine (paying due regard to the arterial supply) together with the lymphatic area, should be resected in one piece. And if the growth be beyond radical extirpation, then a short-circuiting of intestine will render the patient's life free from sudden danger and give a more tranquil ending.

COCAINE SNUFFERS.

IN the issue of the BRITISH MEDICAL JOURNAL for January 25th mention was made by our Paris correspondent of a recent meeting of the French Society of Mental Medicine, at which a discussion arose on the alarming increase of the cocaine habit amongst a certain class of Parisian. Vice is almost as contagious as disease, and the spread of cocaine mania in the underworld of Montmartre has assumed such proportions during the last few years as to give rise to considerable anxiety on the part of the medical authorities of Paris. The investigations made by M. Marcel Briand, chief physician to the Paris Clinical Asylum, and M. Vinchon, in the Montmartrois cafés and night haunts, have yielded some curious particulars as to this form of narcomania, and prove, amongst other things, that one of the most common ways of taking cocaine is through the nose, as a snuff. *La Semaine Médicale* has given an interesting account of a meeting of the Clinical Society of Paris, to which MM. Briand and Vinchon brought four cocaine maniacs as living illustrations of the evils produced. All four patients were women from the same

part of Montmartre, and the symptoms were almost exactly similar in each case. Disturbance of general sensibility was the predominating symptom; there was more or less complete cutaneous anaesthesia, the numbness of the extremities producing a certain amount of clumsiness and want of co-ordination. In some cases there was marked anaesthesia of the pharynx, producing a sensation as of a foreign body. Hallucinations and illusions were present, but varied very much in character. The perversions of vision and hearing seemed to be rather intense evocations of definite memories which had left strong impressions upon the brain than real hallucinations—a point upon which the patients themselves laid stress. None of the four women showed any convulsive phenomena, but the hands and feet were tremulous, as were the lips, and the speech was jerky and explosive. In the majority of cases the symptoms of physical debility were in no long time followed by intellectual deterioration. There was no systematic delirium, but a succession of short-lived delirious ideas. The cocaine maniac usually became intensely irritable and quarrelsome, and as a rule learnt to indulge in alcohol to excess. The craving for cocaine, though less imperious than for morphine, usually showed itself sooner, and might even become established in a day or two. The will power was almost destroyed, so that the cocaine maniac obeyed automatically the sensations which prompted her to take a pinch. At times the longing took the form of a violent desire to snuff some powder, even though it did not contain the drug. Incessant nasal cocainism, it was said, sometimes resulted in perforation of the septum. The taking of cocaine as a snuff seems to be of comparatively recent growth. There were cocaine maniacs some thirty years ago, produced it is said by an attempt to treat morphinomania, but nowadays those who take cocaine by hypodermic injection are a very small minority. The extraordinary extension of the vice dates from two or three years ago, when a small number of *demi-mondaines* introduced the fashion of snuffing cocaine into the Montmartre quarter. Léon Daudet, in his novel, *La Lutte*, has shown how rapidly an entire community may be corrupted by the proximity of a handful of morphinomaniacs, and to-day more than 50 per cent. of the *femmes galantes* of Montmartre are said to be slaves of "la coco," as it is familiarly termed. The ease with which cocaine may be taken in this way has caused it to supplant ether, opium, and all other drugs in the affections of its votaries; and the connivance of the proprietors of night establishments and dancing saloons, in sales by attendants, and in the enterprise of itinerant vendors, has doubtless done much to encourage the fatal fashion. There are certain pharmacies at which the drug is openly sold, but a whole tribe of middlemen has sprung up who buy it in large quantities at one or other of these shops and resell it at night at exorbitant prices. Two of these intermediaries were brought to the same meeting of the Clinical Society by M. P. Beaussart, and seem to have been quite brazen in admitting the nature of their trade and describing their methods. Under the French law a pharmacist who sells cocaine without a prescription and without registering the name of the purchaser may be prosecuted, and one was recently sent to prison for a fortnight and fined several thousand francs. When he came out he resumed his trade and raised his prices so as to pay for his fine. The new poison law of 1908, designed primarily to regulate the sale of opium in France, is little better than a dead letter; so much so that within the last few months the Procurator of the Republic in Paris has called the attention of the police in the Department of the Seine to the fact that in certain quarters of the city it was possible to buy cocaine, opium, or morphine without any difficulty. He urged upon them a stricter exercise of their duty, but the police are handicapped by the fact that somebody must be found to lodge a complaint before the courts can act, and the victims of the habit are seldom disposed to help to set the law in motion. Thus, though some half-dozen pharmacists who connive at the trade are well known to the police, it is difficult to bring them into court. This is a dilemma very familiar to us in this country, and it will be interesting, and perhaps instructive, to us to see how our logical neighbours solve it. Apparently something will have to be done, as the habit seems to be spreading from the frequenters of the night cafés of Montmartre to those in different quarters patronized by another class.

THE ANTIQUITY OF MAN.

PROFESSOR GEIKIE began the second course of Munro Lectures in the University of Edinburgh on January 28th. The Munro Lectures on Anthropology and Prehistoric Archaeology were endowed by Dr. Robert Munro, who retired from medical practice in 1886 to devote his attention to archaeological and anthropological pursuits. Professor Geikie's lectures, ten in number, are being given on Tuesdays and Thursdays. Their subject is the antiquity of man in Europe. This antiquity, said the lecturer in his opening address, was very great, and, although the geologist could not fix a definite date, it was quite certain that the history of man could not be comprised within a few thousand years. The earliest human relics and remains belonged to the Pleistocene period, and therefore the lectures would deal with this geological epoch. Some of the Pleistocene mammals were extinct, but others were still living; and they could be divided into three groups—a Southern and Temperate, a Tundra or snow-loving, and a Steppe group. Three kinds of climatic conditions had prevailed during the Pleistocene period—a genial and equable kind, an extremely cold kind, and one which found its modern representative in that of the Steppes. These various climatic changes could not have followed each other quickly over a whole continent; yet man lived through them all; it must therefore be concluded that the human race was of great antiquity in Europe. This, of course, was only one of the geological proofs of man's antiquity. Professor Geikie, in his second and third lectures, dealt with the testimony of the caves, and in his fourth with that of the Pleistocene river drifts. It might, he said, be concluded that throughout Central Europe Tundra or arctic conditions had obtained for a long time, and had been followed by a steppe climate, and that paleolithic man had lived in both these periods.

THE VENTILATION OF SLEEPING CARRIAGES.

THE all-steel sleeping car is an innovation on American railroads, and has been received with great favour. An exhaustive study of the ventilation of these cars has been made by Dr. Thomas R. Crowder, of Chicago,[1] following up a previous investigation on the standard Pullman sleeping car of wooden construction. From the hygienic point of view, the great advance in these new cars is said to be the abolition of the "deck sashes"—a row of small windows near the roof line on either side of the car—and the substitution of a ventilating system purely on the exhaust principle. In the old type of Pullman the deck sashes formed the only means of ventilation. Later an exhaust system was added in the form of a device known as the Garland ventilator, which removes air by a suction effect dependent on the train motion, and reverses the fresh-air currents in the car from a downward to an upward direction. Thus, instead of air being admitted at the top through special openings and allowed to find its own way out, it is removed at the top by artificial devices, and allowed to find its own way in through the crevices about doors and

[1] *Archives of Internal Medicine*, January, 1913.

windows which act as intakes. This exhaust device was found to increase the active ventilation of the old cars, and to regularize the flow of fresh air, but the existence of the deck sashes militated against the effective working of the system. The crevices of these loosely fitting clerestory windows were so near the outlets of the exhaust ventilators that the air on entrance was short-circuited and drawn out again without playing any part in the renewal of the breathing zone. In the new steel structures, with the deck sashes practically abolished, and the exhaust system made an integral part of the building instead of being an after-thought, there are few or no natural openings in the upper part of the car, and therefore the entering air must come through the crevices around the windows and doors on the lower levels. It is then drawn upwards to the outlets of the exhaust ventilators near the roof. In some formidable tables Dr. Crowder gives figures for the air supply under these conditions. His method is to determine the respiratory contamination of the air of the car, as represented by the amount of CO_2 produced by all its occupants, and with this as an index, to compute the hourly air supply. A large number of samples of air, taken from the aisles of 36 cars, showed an average carbon-dioxide content of 5.78 parts in 10,000. The average number of occupants was 16.2, and the average hourly air supply per car was estimated at 54,600 cub. ft. With the older type of car, equipped with the same ventilating device, but retaining the deck-sash construction, the air supply was 40,600 cub. ft., and with cars depending solely upon deck-sash ventilation, 28,300 cub. ft. The average hourly air supply per occupied berth (computed as the number of cubic feet which must be supplied to one person each hour in order to maintain the CO_2 at the average proportion found) was 2,170 in the case of the lower berths and 2,000 in the case of the upper. These figures, again, are considerably higher than those obtained with the older type of car, but the difference is not so marked as in the ventilation of the aisles. Although he makes these careful determinations of the quantitative air supply, Dr. Crowder proves himself a man after Dr. Leonard Hill's own heart by saying that the quantity of air is not a measure of the ventilation efficiency, and that the important principle in ventilation is to attend to the physical qualities of the air—namely, its temperature, humidity, and movement. The chemical purity of the air is of minor importance, and ventilation should be regarded as a process to be carried out in the interest of the heat economy of the body. The exhaust system is beneficial, because it furnishes a ready exit and a continuous upward movement and outflow of the air forced in by the wind, thus renewing constantly and equably the lower levels of the car. The air supply is always sufficient to prevent monotony, and the jets of incoming air are individually of such small volume and have such irregular and diffuse movement in the stiller body of air within that the system lacks nothing from the standpoint of comfort, and comfort in this case is a fair hygienic index. Comfort and air purity have little or nothing in common, but comfort has a direct reference to air temperature and motion. The judgement at which the sensory nerves arrive is fundamentally correct. The air is really bad or good just as they indicate, but it is bad or good in the physical and not in the chemical sense.

THE BIRTH OF THE ATOM.

WE referred last week briefly to a meeting of the Chemical Society held on February 6th. On the day following the reading of the papers by Sir William Ramsay, Professor Norman Collie, and Mr. H. Patterson, the *Morning Post* published a full account of the meeting. Despite the revolutionary character of the statements made, and of the views more or less tentatively put forward, the Chemical Society received them with enthusiasm, and Professor Arthur Smithells, who was in the chair, described them as possessing greater dramatic interest than any read hitherto in the history of the society, and in its name returned thanks to the authors for their momentous communication. In view of the controversy aroused, it may be well, pending the full publication of the papers, to summarize briefly the essential experiments. If a vacuum tube is taken and sufficient hydrogen admitted to conduct an electric discharge, helium makes its appearance after sparking has been in progress for some time. If this vacuum tube be surrounded by another containing a little oxygen, both neon and helium are found in the space between the two tubes, the formation of neon being apparently conditional on the presence of oxygen. The authors appear to contemplate three possible explanations: (1) the transmutation of one or more of the elements in the glass or electrodes into helium or neon; (2) the transmutation of hydrogen into helium and neon as a result of the electric discharge to which the hydrogen has been subjected; and (3) the conversion direct of the energy of the electric discharge into helium and neon. Of these hypotheses it is only necessary to say that the authors drew attention to the relations expressed by such an equation as helium (4) *plus* oxygen (16) = neon (20). Some preliminary discussions of the experiments by Sir J. J. Thomson, Professor Soddy, and Sir Oliver Lodge have been published, and the line of criticism is that the gases may be liberated from the glass and the electrodes in which they have been occluded. Professor Thomson goes further, and has stated that he had found the formation of the gases to stop after a similar experiment had been running for a few days, and for it to be resumed temporarily if the electrodes were charged. For the present the matter must rest there. The subject is one on which the opinion of any but experts is of little value. It may be stated, however, that the readers of the papers are maintaining their opinion in the face of the criticisms, and claim that the publication of their papers will show that they have eliminated the causes of possible error to which attention has been drawn.

THE NEGLECT OF VACCINATION.

WHEN the Royal Commissioners on Vaccination recommended such modification in the Vaccination Acts as would enable parents who had "conscientious" objection to vaccination to obtain exemption for their children, it was not supposed or contemplated that neglect of vaccination on an extensive scale would be the result. The Act of 1898 gave effect to the recommendation and imposed a certain amount of trouble and a small expenditure on those who sought exemption. That Act also instituted domiciliary vaccination and replaced arm-to-arm vaccination by the use of glycerinated calf lymph. These advantages resulted in a great increase of vaccination. The number of those who objected to vaccination was steadily decreasing throughout the country. Unfortunately some magistrates showed little discretion in dealing with applications for exemption. Their praiseworthy zeal for vaccination led them into misguided action. This gave occasion for an agitation by the anti-vaccinators who greatly disliked the Exemption Clause. The amending Act of 1907 reduced the Exemption Clause of 1898 to a farce, the exception being rendered obtainable by a simple "declaration" involving a minimum of trouble and no cost. The effects of this are now reflected in the vaccination returns, which show a large and increasing neglect of vaccination in the country, and the antivaccinators are rejoicing in the measure of their emancipation, and craving for total repeal. Many authorities do not disguise their anxiety; medical officers of health all over the country are issuing warning notes in their annual reports. Those who face the situation with equanimity may find themselves in a fool's paradise. In the matter of

vaccination, the country which gave to the world this boon is now the laughing-stock of other nations. In other countries the Governments advocate general vaccination as well as enforce it. In this country it may be said the Government does neither of these things. The public vaccinator performs his State duties under conditions of unexampled discouragement, except when small-pox is prevalent; then he is the idol of the district, with even his enemies at his feet. Subsequent results have demonstrated beyond all possible shadow of doubt that the Act of 1907 is responsible for the increasing neglect of vaccination. It is equally true that the wholesale manner in which exemptions are being issued, regardless altogether of any question of conscience, is to a large extent due to the indifference of the Government. The President of the Local Government Board has openly avowed his opposition to vaccination—a fact which must prejudice his attitude as the head of the department entrusted with the administration of vaccination. The Government, however, cannot dispense with vaccination as a first line of defence during the prevalence of small-pox. If the public were more definitely impressed with the fact that the Government knows vaccination to be indispensable at such times more confidence in vaccination would be fostered among the people, and with the risks practically eliminated many would realize the desirability of being wise in time who are now merely indifferent. The question of compulsion may be one of politics—even party politics—but the question of educating the masses in all that appertains to public health and preventive medicine is not a matter of politics, but a real duty devolving upon the State. After seven years of deliberation and the accumulation of an enormous mass of conclusive evidence the Royal Commissioners, with absolute unanimity, agreed that it was the duty of the State to provide vaccination for the people. The State has continued to "provide" vaccination, but has failed to recognize that its duty does not end there. In the face of unscrupulous opposition and the dissemination of misleading and often untruthful literature, no attempt has been made to justify the State or to defend the medical men who are employed by the State from the scurrilous attacks made upon them in the press and on public platforms. This is a poor recognition of services rendered, and is a matter which undoubtedly demands more serious consideration.

MEDICAL MISSIONARY CONFERENCE IN PEKING.

THE *Peking Daily News* for January 17th and 18th, 1913, gives a very interesting account of the triennial China Medical Missionary Conference, held on this occasion in Peking itself. More than a hundred doctors, of whom twenty were women, attended. The delegates came for the first time to the place of meeting by railroad; they consisted not only of British and American physicians, but also of some of other nationalities, and the sessions were held in the Union Medical College. In the absence of the President (Dr. Philip Cousland, who is at present in Edinburgh owing to ill health), Dr. Logan of Hunan presided over the meetings. Chinese medical men and educational leaders in the new Government visited the Conference, and the President and some of the officials of the China Medical Association also attended and sought for co-operation with the Medical Missionary Association in the advancement of medical knowledge in China. In many respects the Conference was not unlike an annual meeting of the British Medical Association at home. Papers were read, which the *Peking Daily News* says were "of a very high order"; the gates of the West Park were thrown open, and the palace where Kwang Hsu was detained by the Empress Dowager in 1898 was visited by the delegates; visits were also paid to the Temple of Heaven, to the Temple of Agriculture, and to the Confucian Temple, the Hall of the Classics, and the Lamasary; receptions were given by the American Minister and Mrs. Calhoun, and by the Minister of Foreign Affairs and Mrs. Lu; but the crowning event was the reception given by the President of the China Republic on January 15th, when, as already announced, he received an address from the Medical Missionary Conference, and made in simple Mandarin the reply a translation of which was published in the JOURNAL on January 25th (p. 189). The most important matter discussed at the Conference was medical education. There was a strong feeling that the missionary societies should not increase either the number of medical schools or the number of hospitals in China until those already in existence were fully manned and equipped; that the medical curriculum should be a five years one, and that the entrance requirements should be at least the completion of the middle school work as laid down in the Government curriculum. The *Peking Daily News*, in a leading article, said: "The doctors all seem to feel that at a not very distant date the Chinese will be able to care for their own medical schools and for the physical welfare of the people. The present object is to so establish the work being done in these lines by the missionary societies, that when the time comes for the completely turning over to the Chinese of this work, the spirit of Christ as well as that of scientific medicine may be deeply embedded in the hearts of the medical profession of the future China."

THE LONDON HOSPITAL QUINQUENNIAL APPEAL.

THIS year the London Hospital is issuing its quinquennial appeal to the British public for funds wherewith to carry on its enormous task among the East End poor. In making this appeal, Mr. Sydney Holland is asking for £100,000, in addition to the £110,000 required annually to keep up the institution. That this will be no easy matter, even for the "Prince of Beggars," in this, the first year of national insurance, is fully recognized. There are many who claim that Mr. Lloyd George's Act will relieve the hospitals very considerably of their financial burden by abolishing a large number of the out-patients. Though this may prove to be true to a certain extent, it seems already fairly clear that the relief will not be anything like as great as some have assumed. The out-patient staff still continue to see and treat a host of patients who are sent up to them by doctors for consultative advice, whilst the bulk of the women and all the children remain, as heretofore, uninsured. Mr. Holland reckons, from the statistics collected in the six months which elapsed between the passage of the Act and the application of the medical benefits therein provided, that out of 233,500 out-patients treated annually at the London Hospital only some 58,000 will be referred to the panel doctors. This may mean a decrease in expenditure of about £6,000—a mere teacup in the ocean of the total expenditure. The effect of the Act on the number of in-patients is practically *nil*. The London is the largest general hospital in the country, and, unlike one or two of its more fortunate brethren, has no permanent endowment fund to fall back upon. It is therefore bound from time to time to make a supplementary appeal to the charitable public for funds over and above the annual expenditure. If the public realized the manifold activities of an institution like the London Hospital, they would willingly put their hands in their pockets and quickly collect the sum necessary to defray all expenses and maintain the institution in a state of the highest efficiency. Some 700 persons daily apply to the hospital for treatment. The wards contain some 900 beds, which are occupied annually by 16,827 patients. The number of persons treated as out-patients has already been quoted. Of these 38,870 last year attended the various special departments, and the National Insurance scheme does not profess to provide special treatment. The true magnitude of the figures given is more vividly portrayed when we

realize that during the year over 10,000 patients attended one special department alone, that set apart for diseases of the throat, nose, and ear. The general public ought more fully to realize that the great hospitals have a far wider scope than simply treating the sick. They have an even higher duty to perform in investigating obscure points connected with disease; whilst last, but by no means least, it is their function to educate the coming generation of doctors. If the hospitals are to be starved because the new tax is resented by employers, then the public will suffer a threefold wrong; they will lack that attention which hitherto was accorded them by the hospitals and which can be obtained nowhere else, but an even greater misfortune will be the necessarily inferior standard of medical training which the Insurance Act may encourage unless scientific and clinical research can be continued and extended. If only the public will understand that the wonderful combination of departments directed by highly trained specialists, such as the bacteriological, chemical, *x*-ray, Finsen light, massage, and baths, can only exist together in institutions like the London Hospital, then we feel sure that Mr. Sydney Holland's appeal will not fall upon deaf ears.

THE COMMITTEE ON TUBERCULOSIS.

THE Departmental Committee on Tuberculosis appointed a year ago under the chairmanship of Mr. Waldorf Astor, M.P., to consider the general policy in respect of the problem of tuberculosis in the United Kingdom in its preventive, curative, and other aspects, has recently held a number of meetings. The Committee, it will be remembered, issued an interim report last May, which dealt mainly with administrative questions. Its final report, which, it is understood, will be issued at an early date, will, it may be assumed, deal among other matters with the organization of the research contemplated by the National Insurance Act, Section 16 (2). That subsection provided that a contribution of 1d. in respect of each insured person should be made to the sanatorium fund out of money provided by Parliament, and authorized the Insurance Commissioners to retain the whole or any part of the sum for the purpose of research. The Committee will in all probability recommend that the researches to be immediately undertaken shall have reference to tuberculosis, but it must be borne in mind that sanatorium benefit may be extended to other diseases, and the provision as to research would then apply to these other diseases. The importance, therefore, of putting the system on a good footing extends beyond the question of tuberculosis alone.

AT a meeting of the Royal Faculty of Physicians and Surgeons of Glasgow on February 3rd, Sir William Macewen, M.D., LL.D., F.R.S., D.Sc.Oxon., Professor of Surgery in the University of Glasgow, was, on the motion of the President and Council, unanimously elected an Honorary Fellow of the Faculty.

MR. G. JAMESON JOHNSTON, F.R.C.S.I., Professor of Surgery in the Royal College of Surgeons in Ireland, has been elected president of the Universal Esperanto Medical Association, in succession to the late Professor Dor of Lyons.

A COURSE of post-graduate lectures on recent views as to diseases of the liver, pancreas, and spleen will be given in the clinic of Professor Gilbert at the Hôtel-Dieu, in Paris. It will commence on March 17th and terminate on April 1st. Two sessions will be held on each week-day with an interval of three days at Easter. The fee for the course is 100 francs. Further particulars can be obtained on application to M. Deval, Chef de Laboratoire, Hôtel-Dieu, Paris. In September there will be another course on the clinical application of laboratory methods to diagnosis.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Royal Commission on University Education in London.—In reply to Sir Philip Magnus, the Home Secretary stated, on February 6th, that the Royal Commission on University Education in London had nearly completed its final report, but it was not possible to say when it would be published.

Medical Referees and the Panel.—Mr. Masterman, in replying to Mr. Bird, on February 10th, stated that medical referees under the Workmen's Compensation Act were not debarred from going on the panels under the Insurance Act.

Tuberculosis Dispensaries in Ireland.—Mr. Birrell informed Captain O'Neill, on February 11th, that tuberculosis dispensaries had been established by the Dublin Corporation in Dublin and by the Down County Council at Banbridge and Newtownards, and negotiations for the acquisition of sites were pending in a number of other counties. Part I of the Tuberculosis Prevention (Ireland) Act, 1908, which dealt with compulsory notification of tuberculosis, had been adopted by twenty-two urban and twenty-eight rural sanitary authorities.

Vaccination.—Mr. Thomas asked the President of the Local Government Board, on February 11th, whether he was aware that in Derby, Leicester, and other towns for many years past less than 10 per cent. of the children born had been vaccinated; that the inhabitants had not suffered in any special degree from small-pox in consequence of this neglect of vaccination, but that concurrently with decreased vaccination both the general death-rate and the infantile mortality had materially declined; and whether he was now prepared to recommend the Government to bring in a bill for the repeal of the penal clauses of the Vaccination Acts.—Mr. Burns said he was aware that there had been a considerable increase in the number of exemptions from vaccination and that there had not been any corresponding increase in small-pox, but he could not undertake to recommend legislation of the kind suggested at the present time.

Inflammable Fabrics.—A Fabric (Misdescription) Bill was introduced on February 4th by Mr. T. C. Taylor. The object of the bill is to prohibit the sale of flannelette or any other textile fabric described as being non-inflammable or safe, unless it conforms to such standard of non-inflammability as may be prescribed by regulations to be made by the Secretary of State. The bill is supported by Dr. Addison, Mr. Boland, Colonel Brocklehurst, Sir Frederick Cawley, Sir Henry Craik, Mr. Ferens, Mr. Hills, Mr. Joynson-Hicks, Sir John McCallum, and Mr. Albert Smith.

Nurses' Registration Bill.—When questioned on February 5th with regard to the prospects of the Nurses' Registration Bill next session, the Prime Minister said he could make no promise for next session, but the claims of the Bill would be considered.

Trade Effluent and Sewage Disposal.—Mr. Burns said, on February 5th, that the recommendations of the Royal Commission relating to the disposal of trade effluents were receiving his attention, but he could not say when it would be possible to introduce legislation on the subject.

England and Wales.

FROM OUR SPECIAL CORRESPONDENT

LONDON.

ELECTION TO THE LONDON INSURANCE COMMITTEE.

THE following address to the medical practitioners in the London Insurance area has been issued by Mr. E. B. Turner and Dr. Evan Jones:

"Having been requested by a large number of practitioners to stand for election as representatives of the medical profession on the London Insurance Committee, we have consented to do so, and ask for your votes and support for the following reasons. We hold:

"1. That the two practitioners elected by the profession to serve on the Insurance Committee for the London area should be entirely independent of the control of that Committee.

"2. That the interests of the very large number of men who have declined to serve under the Insurance Act and Regulations should be safeguarded, as far as possible, on that Committee by the directly-elected representatives.

"The six other medical men nominated and appointed by the Commissioners and the County Council respectively will amply suffice to voice the wishes of those gentlemen who are now serving on the panels, but it is extremely unlikely that they will give any very active support to those who have declined to work under the Act.

"If elected, we shall consider that we represent the whole of the profession in London, and shall do our utmost to further the interest of every member of that profession, whether he be working under the Insurance Act or not.

"EVAN JONES.
"E. B. TURNER."

THE TREATMENT OF TUBERCULOSIS.

In reply to a letter from the Local Government Board, suggesting that the London County Council should prepare a complete scheme for dealing with tuberculosis in London,[1] the Public Health Committee reported to the Council on February 11th in favour of accepting the suggestion, and outlining the general principles upon which it considered provision for treatment of tuberculosis should be made.

Temporary Arrangements.

The Committee pointed out that, although communications had been addressed by the Local Government Board to county councils throughout the country as early as May, 1912, no indication was given until December as to what authority was to be responsible for dealing with the disease in London. The Council, therefore, was in no way responsible for the delay that had occurred As soon as the Council was approached it decided to make temporary arrangements with the Metropolitan Asylums Board for the provision of a limited amount of accommodation. Authority to provide this was received on December 11th, 1912, and, although various alterations to buildings had been necessary, patients were received on February 10th, 1913.

It was difficult to estimate accurately the number of cases within the county of London, because the disease in all its forms had only just become compulsorily notifiable. There were, however, 33,444 cases of phthisis notified during 1912; of these, 12,366 were Poor Law cases, 12,214 were hospital cases, 500 were school cases, and the remainder (8,304) were notified by general practitioners. The medical officer estimated that there were in London 50,000 persons suffering from tuberculosis, and of these about 20,000 were insured persons. As regards school children, with the extension of medical reinspection and the increasing facilities for diagnosis likely to obtain in the near future it was probable that many more cases of early tuberculosis would be detected each year than had hitherto been the case. The existing provision was in the hands of the various public authorities and of the voluntary agencies comprising the general and special hospitals, the tuberculosis dispensaries, and various philanthropic and religious bodies.

[1] BRITISH MEDICAL JOURNAL, December 21st, 1912, p. 1727.

The Value of Existing Methods.

It was obvious that if the best results were to be obtained the work of these authorities and institutions must be co-ordinated. For instance, under the existing arrangements the provision of dispensaries was being dealt with by the borough councils. Although it was not suggested that this arrangement was undesirable, it was essential that there should be uniformity. Moreover, it was very important that the part played by the hospitals, general and special, should not be displaced by any newer dispensary provision. It was equally important that the valuable work of the practitioner should be assimilated in the new arrangements to be made. The dispensaries, if established as separate institutions, should fill up the gaps in the hospital provision. It would be a great misfortune if the hospitals, with their highly experienced staffs, elaborate equipment, and special organization, were not utilized. No new institutions with their limited staff and resources could possibly provide the skill and experience available in the large general and special hospitals. The hospitals had to a great extent evolved the forms of medical treatment now accepted as the best, and the progress of medicine was bound up with their keeping in intimate touch with the patients they had hitherto extensively treated. To conserve the work of these great institutions rather than replace it should be a definite aim in any reorganization of the measures for dealing with tuberculosis now undertaken.

If it was considered desirable to co-ordinate the dispensary arrangements throughout London, uniform agreements should be made between the County Council and the borough councils, and the co-operation of the general practitioner in cases not suitable for dispensary treatment should be secured to the fullest extent possible.

Central Control of the Organization.

The committee pointed out that any measures for the prevention of infection from tuberculosis could not be confined logically to one class. The treatment of the disease could not be regarded as other than a matter of public health administration, and the County Council, in its position of central public health authority, was best fitted to organize the arrangements, as it was important that there should be no departure in London from the well-founded principle of having one central health authority for the administration and co-ordination of all matters relating to public health. In this connexion the committee indicated the important functions already exercised by the Council in regard to tuberculosis. In its function of education authority, also, it had, to quote the Departmental Committee on Tuberculosis, "the opportunity of playing a very important and indeed essential part in the detection, prevention, and treatment of tuberculosis."

Conferences with Hospitals, etc.

The Committee recommended the Council to cause a detailed scheme for the treatment of tuberculosis to be prepared. It would be undesirable at this stage to enter into details, because so many authorities and institutions were concerned; but it was important that the action which the Council was to take with regard to the general situation should be decided as soon as possible. The local authorities, hospitals, and all concerned in the provision of treatment for tuberculous persons in London were experiencing considerable difficulty in deciding what arrangements they were to make for the future because of the absence of any co-ordinating scheme. The question of finance was, of course, of paramount importance as bearing upon the scope of any scheme which might be prepared, and the ideal public health measure must be subordinated to the practical.

Major Levita, the Chairman of the Public Health Committee, moved the adoption of the following recommendation attached to the report:

> That it be referred to the Public Health Committee to prepare forthwith and submit to the Council a scheme for dealing with tuberculosis throughout the administrative county of London; that the Local Government Board be informed of the action taken; and that, for the purpose of preparing a scheme, the Committee be authorized to confer with the

sanitary authorities, the Insurance Committee for London, and such other authorities, institutions, or persons as the Committee may deem necessary.

The recommendation of the Committee was adopted without debate.

The Relative Infectivity of Leprosy.

It was reported to the Metropolitan Asylums Board on February 8th that the Greenwich Borough Council, having made leprosy a notifiable disease in that borough, had asked the Asylums Board to provide hospital accommodation for the treatment of cases. The medical officer to the Board, Dr. H. E. Cuff, reporting on the suggestion, said the Greenwich Council assumed that there was a risk of the spread of infection. In this country, at any rate, the risk could hardly be said to exist. Though the Local Government Board had knowledge of quite a number of lepers, there was only one instance on record (in Ireland) of a previously healthy person developing the disease in these islands. In that case the grossest carelessness and indifference were shown, for the man who became infected had been in the habit of sleeping in the same bed with his brother, who was a leper, and when the latter died the survivor wore his clothes. There was no doubt that leprosy was contagious, but in a low degree, and that prolonged and intimate contact was necessary to permit of the spread of infection. It was known that a man might have the disease and live for years with his wife without giving it to her. In the public mind the idea that leprosy was dangerously infectious was maintained by accounts of the deaths from leprosy which occurred from time to time in the ranks of those who tended the sufferers from the disease. No account was taken of the very much larger number that escaped infection. For example, one sisterhood had had charge of a leper colony for fifty years, and during that time no sister had contracted the disease. Lepers who could be maintained in their own homes could safely be left there, and those who were living under grossly unhygienic conditions could be treated in the London hospitals or infirmaries without any risk to the other inmates. To take sufferers away from their friends and permanently place them in institutions would be an act of cruelty, for the disease was incurable, and the only medical and surgical treatment required was of a general character.

The Board decided to inform the Greenwich Council that it could not endorse the view that special hospital accommodation was necessary for cases of leprosy.

The Appointment of a Research Bacteriologist.

At the same meeting a letter was received from the Local Government Board stating, with reference to the proposal to appoint a research bacteriologist (British Medical Journal, December 7th, 1912, p. 1640), that it was of opinion that the officer should be designated pathologist, that his appointment should be annual in the first instance, and that the holder should not, at any rate in the beginning, be required to devote the whole of his time to the duties. Subject to these conditions the Board approved the appointment.

BIRMINGHAM.

Presentation to Sir Thomas Chavasse, F.R.C.S.

A presentation was made to Sir Thomas Chavasse at the General Hospital, Birmingham, on January 30th, on the occasion of his retirement from the office of honorary surgeon to the hospital, a post which he had held for over thirty years. The presentation took place in the board room of the hospital, the Lord Mayor of Birmingham (Lieutenant-Colonel E. Martineau, V.D.) presiding over a large company.

Sir Thomas Chavasse, owing to a recent accident in the hunting field, was unable to be present, but his son, Dr. Arthur Chavasse, accepted the presentation on his behalf.

A three-quarter length portrait in oils of Sir Thomas Chavasse, which had been executed by Mr. A. T. Nowell, was presented to the hospital to be hung in the board room. The portrait represents Sir Thomas wearing the gown of a Fellow of the Royal College of Surgeons, and is a most excellent likeness. A smaller portrait by the same artist was presented to Lady Chavasse, who in a most graceful speech said she was exceeding proud of the gift, which she regarded as a proof of the way her husband's work within those walls had been appreciated.

Mr. Gilbert Barling, senior surgeon to the hospital, asked the Lord Mayor to present an illuminated address saying that Sir Thomas had set a fine example of devotion in the way he attended to his hospital work. He was the first surgeon at the hospital who had been inspired by the principles of the late Lord Lister.

Sir Thomas Chavasse became assistant surgeon to the General Hospital, Birmingham, in 1877, and was elected to the full staff in 1881, so that he had been honorary surgeon for over thirty years. During that time his devotion to the hospital had been most marked, and it was chiefly through his influence that the new hospital had been built at the time it was. He had inspired that great benefactress to Birmingham, Miss Ryland, a near relative of Lady Chavasse, to bequeath £25,000 to the hospital. Sir Thomas Chavasse took the greatest interest in the building of the new hospital, and was also able to obtain other large donations towards its rebuilding, and had himself given £1,250 for the endowment of a bed.

Sir Thomas Chavasse has held many important medical posts in Birmingham, for he is ex-President of the Birmingham Branch of the British Medical Association, the Midland Medical Society, the Birmingham Medical Benevolent Society, the Queen's College Medical Society, and the Birmingham Medical Institute.

MANCHESTER AND DISTRICT.

The Manchester Royal Infirmary.

In the annual report of the Board of Management of the Manchester Royal Infirmary for the year 1911 some fear was expressed as to the possible effects of the National Insurance Act on voluntary hospitals, and the report for 1912 stated that to a certain extent the fears had been justified. The work of obtaining new subscriptions had been seriously interfered with, and a few old subscriptions have been discontinued. Though there has been during the past year a slight increase in the annual subscriptions, it is said that there is little doubt that the hospital would have gained a very substantial increase in its subscription list if the Insurance Act had not been passed. The board has had to contend with a widespread belief among the public that hospital treatment is included in the benefits under the Act which insured persons had a special right to claim. On the other hand, a statement has been made that the infirmary would refuse treatment to insured persons, and undoubtedly this had a damaging effect on the subscription list, several letters having appeared in the press distinctly threatening to withhold subscriptions and contributions to the hospital funds if insured persons were refused treatment. To meet this the Board of Management some time ago issued a public statement to the effect that prompt treatment of emergency and accident cases, whether major or minor, would be continued by the infirmary without regard to whether the patient were insured or uninsured; that poor persons, whether insured or not, would receive in-patient treatment on the same conditions as hitherto, and that special treatment for serious diseases of the eye, ear, nose, and throat, diseases of women, and every ailment needing *x*-ray, electricity, and massage treatment would also be continued as before. The only difference will be that insured persons applying for treatment at the out-patient department will be examined by one of the staff and will receive any necessary immediate treatment, but if it is considered that they are only suffering from some minor medical or surgical ailment, which can be properly treated by their own insurance doctor, they will be referred to him for subsequent treatment.

In the report for 1911 attention was drawn to the original appeal to the public for at least £12,000 additional annual subscriptions, which it was thought would be necessary after removal to the new infirmary if the institution was to pay its way. The response to that appeal had only been £3,783, and the increase during 1912 has been a further £241, making a total increase in annual subscriptions since the removal of just over £4,000 a year. This still leaves £8,000 a year to be provided, and, in

addition, a central branch for accidents in the centre of the city is necessary, which will require a sum of about £25,000 for building and equipment. The board asks that it should be enabled to inform Their Majesties the King and Queen, when they visit Manchester in July, that, as a memento of their visit, Manchester has built, free from debt, a central branch in the centre of the city for the treatment of accidents and out-patients.

WALES.

WORKMEN AND THEIR DOCTORS.

IT is a curious but well-recognized fact that workmen who have had to fight most strenuously for freedom in connexion with their own working conditions are often the hardest taskmasters when they come to deal with persons who are working for them. Fresh confirmation of this anomaly has been brought to our notice by a dispute which is now in progress in the Eastern Valleys of Monmouthshire. Up to the coming into force of the Insurance Act the doctors in the Valley were paid by the workmen on a poundage system, that is to say, each workman paid 3d. per £1 of wages for medical attendance on himself and his dependants. As the wages average about 30s. a week, the yearly amount paid to the doctor for family medical attendance averaged 19s. 6d. When the Insurance Act came into force local doctors went on the panel and agreed to accept the insurance rate for the workers with the reduced poundage rate of 2d. for attendance on the dependants. This arrangement, it is estimated, would bring in the same yearly amount per family as before. The agreement involved the introduction of a system of free choice of doctor which had not hitherto obtained. It might naturally be thought that an agreement of this kind, involving no extra payment and giving to the workman a privilege he had not previously enjoyed, would have been accepted as a very satisfactory arrangement, but the workmen's leaders evidently thought there was a chance of getting a control over the profession which they had hitherto not had, and they proposed that the payment to the doctors should be made by the colliery and works owners through a committee of workmen, and also that the poundage rate should now include free attendance on all midwifery cases. As regards the latter we sincerely trust the doctors will not submit to a demand which is, we believe, unfair, and we hope unprecedented. In every medical contract arrangement within our knowledge the attendance on midwifery cases has been an extra, and we certainly do not think that the payment of 19s. 6d. a family per annum is likely to produce such a handsome remuneration for the doctor that he can afford to give freely what has hitherto been looked upon as an extra.

The other demand of the workmen seems to us to be of doubtful legality, while its unreasonableness is not at all doubtful. The payments received by the doctors from the works office are not payments in advance, but are in respect of work which has already been done, and it is extremely doubtful whether the owners of the works could pay the money except to the doctors who have earned it. They certainly could not do so without the consent of the doctors. But it is obvious that the desire to get the money into the hands of the committee is inspired by the wish to get control over the doctor, and probably also by a hope that some of the money may be retained for other purposes besides paying the doctors. But what more control do the workmen want now that they have got free choice of doctor? If they are not satisfied with the attendance they get they will change their doctor, and there the matter would end. The doctor who is unsatisfactory will be punished by loss of practice. The workmen should remember that the only control even a duke has over his doctor is the right of changing him if not satisfied, and such control is found to be perfectly sufficient and satisfactory in private practice. We believe that after calm consideration the workmen will recognize this, and the fact that they have not done so up to the present is no doubt due to the novelty of the situation. It would be unfortunate if the doctors in the Eastern Valleys, members of a profession the value of whose work largely depends upon the individuality which is put into it, should at one blow come under the control of two sets of committees, first the Local Insurance Committee for the purpose of the panel, and, secondly, a committee of workmen for the purposes of the dependants of the workmen. And the misfortune would be at least as great for the public in the Valleys as for the doctors. The right type of doctor simply will not submit to this pettifogging and unnecessary interference, and insistence on it will lead to a lowering of the type of practitioner who will accept service in the Valleys. We trust that the doctors of the Eastern Valleys will resist this unreasonable demand to the utmost, and we know that in doing so they will have the support of the Welsh Divisions and Branches of the Association which have so often proved themselves equal to similar emergencies. We would draw attention to the fact that the workmen are advertising for doctors in this district, and we trust that no member of the profession will be so foolish in his own personal interest and so lacking in *esprit de corps* as to apply for such an appointment—at any rate, before seeking the fullest information as to local conditions.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE ROYAL FACULTY OF PHYSICIANS AND SURGEONS AND THE HOUSING QUESTION.

THE Town Council of Glasgow, at its meeting on February 6th, received a deputation from the Royal Faculty of Physicians and Surgeons on the subject of the housing problem and the treatment of consumptives on their return from sanatoriums. Dr. Adam, the President, said that the Faculty had existed for over 300 years, and one of its charter rights was that of watching the interest of the poor. It had been very much concerned lately regarding the question of tuberculosis, the question of better housing, and the question of clearing out slum properties. The deputation came in no carping spirit, but to try to support the corporation in the effort it was making to deal with a very difficult subject, and, if possible, to get those properties swept away at any cost, for he was sure, whatever the cost, it would repay them a hundredfold. Professor Glaister then said he had been charged to lay before the town council the two following resolutions passed by the Faculty:

1. That the Faculty have learned with satisfaction of the action already taken by the Corporation of Glasgow in closing houses and tenements in the slums of Glasgow, which are the breeding places of consumption, and, while appreciating the difficulties in achieving rapidly the end in view, would urge the Corporation to prosecute the same with vigour, in the best interests of the citizens of Glasgow; and also to provide for the housing of the displaced families.

They all knew that owing to the absence or deficiency of building regulations in the past the housing conditions of Glasgow gradually evolved themselves through different centuries, with the result that they had conditions existing in the city which were not consonant with the public health requirements of to-day. These conditions had been bequeathed to them, and they must be gradually removed before they brought the city up to the conditions they all desired.

2. The Faculty are also of opinion that the Corporation of Glasgow should provide suitable hospital accommodation for the more advanced and incurable cases of consumption, these probably being the most active sources of infection.

They knew from their medical experience that tuberculosis was spread among members of families by the imperfect housing conditions in which they lived. They therefore thought that when cases were so far advanced as to be incurable a home should be provided by the Corporation for the sufferers, with such provisions for the visitation of friends as the Corporation might arrange.

Dr. Duncan submitted the third recommendation, which was as follows:

3. That in view of the rapidly accumulating experience regarding the disheartening results which follow the return of sanatorium patients to their own surroundings when these are unsuitable, the Faculty would suggest that the Corporation should provide houses structurally adapted for the home treatment of consumption.

Those who had experience of sanatoriums knew that a large number of patients were sent out who seemed to have the disease arrested—they did not speak nowadays about cured—and if they were able to carry on for some time the treatment they had received from the sanatorium a very considerable number of them would no doubt become well.

Dr. Knox then thanked the council for receiving the deputation, and the council decided to discuss the resolutions at the next meeting of the Corporation.

MEDICINE AND LITERATURE.

On January 31st Dr. J. W. Ballantyne gave an address on Medicine and Literature to the members of the Edinburgh Women Students' Medical Society. He spoke of the medical men who after graduation, and in some instances after a few years of practice, had passed over from medicine into literature, and he cited Campion, Samuel Smiles, Goldsmith, James Hutchison Stirling, and Sir Arthur Conan Doyle. He spoke also of the men who had continued to practise medicine and had yet been ornaments to literature, naming Sir Thomas Browne and quoting from his works, and referring to Oliver Wendell Holmes, to Dr. John Brown, to Mark Akenside, and to some others who were still alive. Allusion was made likewise to the literary men who had been as it were "stickit" doctors, who had got so far as the dissecting room but no further; Southey and Herder, "the Coleridge of Germany," were touched upon. There were also doctors who had written on their own subject of medicine in works which were classics in literature as well as medical text-books; and the instance of Trousseau's *Clinical Medicine* was cited. So far Dr. Ballantyne had dealt only with one side of the subject, the literary aspects of medicine; but he then turned to another—the medical aspects of literature—and referred to the use of medical figures of speech in general literature; he gave instances of their appropriate employment from Shakespeare's Richard II and Hamlet, and of their scarcely so fitting use by some of the old divines, such as Sibbes. He spoke also of books which might be reckoned as medical which were nevertheless written by non-medical authors, instancing Wellesley's *Primitive Physic;* the *Anatomy of Melancholy*, by Robert Burton, "by profession a divine, by inclination a physician"; and Defoe's *Journal of the Plague Year*. Finally, he gave quotations illustrating the way in which some literary men, such as Henley, had written or sung of their doctors.

SCOTTISH MINERS AND MEDICAL ATTENDANCE.

A further meeting of the executive of the Scottish Miners' Federation (see SUPPLEMENT, February 1st, p. 118) was held in Glasgow on February 4th, when the Secretary stated that no further communication had been received from the Secretary of the Colliery and Public Works Surgeons' Association, and that the executive were disposed to assume that the medical men in the mining districts had accepted the agreement arrived at between the doctors, the men's representatives and the coal-owners at the recent conference held in Glasgow. We are not in possession of full information with regard to the present position, but it would appear that the assumption is incorrect with regard to certain districts at least. At a recent meeting of miners in collieries at Newbattle and Arniston, in Midlothian, it was stated that medical men who had hitherto attended them and their families had refused to accept the arrangement suggested, and a committee was appointed to advertise, as we understand, for whole-time medical officers. The remarks made above under the heading of Wales appear to apply, *mutatis mutandis*, to the position in Midlothian, and any practitioner who may be approached with the object of accepting the appointment in Midlothian is advised in the first place to apply to Mr. J. Burne Mackie, Secretary of the Midlothian Medical Practitioners' Association, 25, George Street, Edinburgh.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

PAYMENT FOR MEDICAL CERTIFICATES.

THE Conjoint Committee of the British and Irish Medical Associations at a recent meeting passed a resolution to the effect that a minimum charge of 2s. 6d. should be made for every medical certificate of sickness given to an insured person, and, as stated last week, the Standing Committee of the Dublin Clinical Hospitals passed a similar resolution, provided it was found on inquiry that the patient was not liable for the fee. The Insurance Commissioners were asked if the fee for these certificates would be paid by the societies or the insured persons. They replied that it was optional with the societies whether they required a medical certificate or not. It therefore appeared that if a society decided to demand a medical certificate it must pay for it. Further, a special grant of £50,000 has now been allocated to Ireland for the purpose of paying for medical certificates, etc. The societies, however, are at present trying to obtain these certificates without paying for them, by telling the insured persons that if a fee is demanded it is a matter between the patient and doctor and does not concern them. Some insured persons are proceeding against the societies for the recovery of their sick benefit money which has been refused owing to the absence of a medical certificate of sickness. The societies probably all realize that in the end they will have to make arrangements for paying for any medical certificates they may require, and are only holding out at present in the hopes that the medical profession will reduce their charge to 1s. per certificate. As this is the only point on which the medical profession has now any claim on the friendly societies it behoves it to remain firm. It was suggested at the last meeting of the South Dublin Guardians that if the doctors persisted in this line of conduct the guardians could strike back by throwing out proposals to increase their salaries. Last week the Chairman of the Carrick-on-Suir Board of Guardians stated that he voted against granting the increases of the dispensary doctors' salaries because of the doctors' action in refusing to give Insurance Act certificates to poor people in the district. Many of the societies are dispensing with medical certificates and relying on lay inspectors, and already the Dublin hospitals are troubled by visitors calling at all hours to inquire for and see patients who are in the wards.

MATERNITY BENEFIT AND DISPENSARY TICKETS.

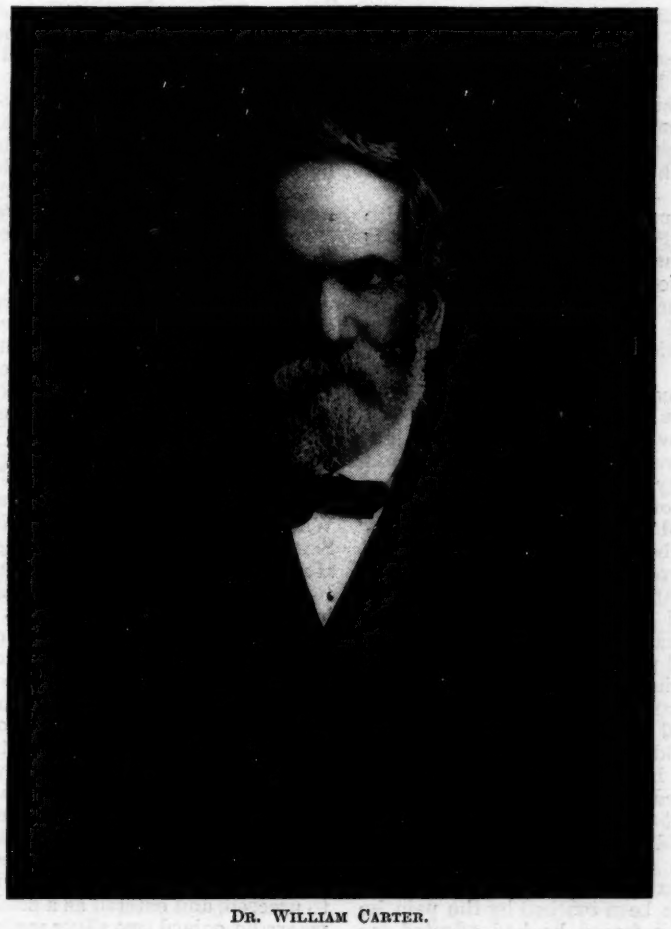
Last week a deputation from the Conjoint Committee of the Irish Medical Association and British Medical Association, consisting of Professor White, Dr. O'Connor (Cellbridge), Dr. Walshe (Kilkenny), and Dr. Kidd (Enniskillen), waited on the Local Government Board to discuss the position of dispensary medical officers in regard to the treatment of patients receiving maternity benefit, and also with respect to other points arising under the Tuberculosis Act. The Board was asked whether persons receiving maternity benefit—that is, a sum of money for the special purpose of paying doctor and nurse in a case of confinement—were to be considered as poor persons within the meaning of the Act, and if the guardians were therefore justified in giving a red ticket for attendance for the purpose of confinement only. The deputation pointed out that if a red ticket was given the dispensary doctor must attend, and that therefore the patient had no free choice of doctor. Sir Henry Robinson, in reply, said that a doctor must attend on a red ticket, without receiving payment, until the ticket was cancelled. The question of whether the guardians should issue a red ticket for a person in receipt of maternity benefit must be left to be decided according to the special circumstances of each individual case. In view of the provisional regulations made by the Welsh Commissioners as to the fees of medical practitioners summoned under the rules made under the Midwifery Act, laying down that 15s. for the doctor during attendance for labour, and 5s. subsequently, should be paid and recovered from maternity benefit, and also, in view of the many applications for advice from boards of guardians throughout the country, Sir Henry said they had prepared a circular, which had been held over pending the interview. He then read the circular, and asked for the opinion of the deputation. Drs. O'Connor and Kidd and Professor White expressed the opinion that it met the case fairly and reasonably, but Dr. Walshe thought it left the matter very much as it was at present, as it would still be discretionary with the guardians to give tickets where maternity benefit was given.

Obituary.

WILLIAM CARTER, M.D., F.R.C.P.LOND.,

CONSULTING PHYSICIAN TO THE ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

IT is with great regret that we have to record the death of Dr. William Carter, which took place, in his 77th year, at Liverpool, on February 2nd, after a brief illness. For forty years during his residence in Liverpool he figured prominently in the life of the city. He was born in Newbury (Berks) in 1836, the son of Dr. Thomas Carter, who practised in that town. He came of an old Berkshire family, many generations of which had resided at Kingsclere, and on the walls of the old church there the tablets in memory of the family date back to the early part of the eighteenth century. Dr. Carter was educated at the Newbury Grammar School, and afterwards at Charing Cross and St. Thomas's Hospitals; his academic career was most distinguished, for he carried off, in addition to many other honours, two gold and several silver medals during the course of his studies. He obtained high degrees in medicine, and was also a graduate in law (LL.B., 1866) and science (B.Sc., 1864). Amongst other distinctions he was an ex-President of the Liverpool Medical Institution, Liverpool Literary and Philosophical Society; honorary member of the Société Française d'Hygiène; member of the Irish Medical Schools' and Graduates' Association; Professor of Materia Medica, Liverpool University; Honorary Physician to the Liverpool Royal Southern Hospital; Consulting Physician, Eye and Ear Infirmary; Professor of Botany, Zoology, and Physiology, Queen's College; Lecturer on Botany in the Liverpool Royal Infirmary School of Medicine, and on Chemistry and Natural Philosophy in Liverpool College; Honorary Medical Officer, North Dispensary; Lecturer on Science, Liverpool School of Science, and on Materia Medica and Botany, Liverpool School of Pharmacy; Assistant Demonstrator of Anatomy, Charing Cross Hospital; and President of the Liverpool Microscopical Society. He was a Crown Representative on the Council of the University of Wales. He took the degree of M.B.Lond. in 1864, and at first commenced practice in Dublin, but removed to Liverpool in 1867. He rapidly took a prominent place in the medical life of the city. His pen was facile and his contributions to medical literature numerous, dating back to 1868. He was always of a modest and retiring disposition and shrunk from any action or circumstance which might have been interpreted as holding possibilities of self-aggrandisement; but, in spite of this, his ability and conscientious work soon placed him in the forefront of his profession and commanded the confidence and esteem of his patients and professional brethren. His conscientious adherence to what he considered true principles and settled convictions of what was right and just, both in individual work and movements for the welfare of the people, made him an indomitable worker and combatant in many reforms.



DR. WILLIAM CARTER.

Photograph by [*Mcdrington's, Ltd., Liverpool*

His academic work in Liverpool dated back to the very beginnings of the old Liverpool Medical School, from which sprang the University College, and, finally, the Liverpool University. He was an able instructor in materia medica and therapeutics, and in both subjects was deemed a master. For over thirty-six years Dr. Carter was a physician to the old Southern, afterwards the Royal Southern, Hospital, Liverpool. At the age of 60, when he offered to resign, the committee thought so highly of him and his work that his resignation was unanimously declined, and he remained loyally serving the hospital until the close of his professional career. Shortly after settling in Liverpool Dr. Carter succeeded the late Dr. Nevins as a lecturer on chemistry in the old Liverpool College, Shaw Street. Many of his students became his firm friends in later life, and among the most notable of these were Mr. Justice Pickford and Mr. Austin Taylor, formerly the members for East Toxteth Division. In the School of Science his teaching and enthusiasm gave rise to many personal friendships. One of the working-men students was a Scotsman named George Gordon, who afterwards became curator of the Fitzwilliam Museum, Cambridge, and subsequently assisted Lord Rayleigh in research work. A few years ago Mr. Gordon died, and on his deathbed expressed the desire that all his books and scientific instruments should go to his instructor as a token of his appreciation of the kindness he had received.

In his position as medical officer to the West Derby Union Dr. Carter gained much knowledge that was of service to him in his work as a social reformer. He took great interest in measures of sanitary improvement, and was frequently consulted by the Corporation on sanitary questions. He strove earnestly in the social purity crusade for the cause of social righteousness. The temperance cause had in him an ardent and powerful advocate. He was deeply interested in the higher education of women, and was a strong supporter of the registration of midwives and lived to see that embodied in the Midwives Act.

In conjunction with the late Dr. Nevins, Francis Newman, Mrs. Josephine Butler, Dr. Ginsberg, and the Hon. James Stuart, he opposed the Contagious Diseases Act which was in due course repealed in 1886. Dr. Carter also took a notable part in the establishment of the National Association for the Repeal of the Compulsory Notification Act. He was connected with the inauguration of the Liverpool School of Tropical Medicine, and devoted much time and energy to its successful development. He also held the office of Chairman of the Cancer Research Committee, the generous founder of the research fund selecting him as the medium of his benevolence.

As an instance of his firm adherence to principle, it may be said that, when the late King of the Belgians desired to confer upon him an important decoration in

connexion with the School of Tropical Medicine, Dr. Carter refused, owing to the King's attitude to the Congo question, Dr. Carter having been an early member of the Congo Reform Association. His possession of the Mary Kingsley Medal in connexion with the School of Tropical Medicine was, however, a distinction of which he was very proud.

Dr. Carter took the chair at the inaugural meeting of the Liverpool Royal Country Hospital in November, 1898, and was an early and strong supporter of that institution. He continued to act as chairman until the hospital was founded, and remained on the committee until his decease.

Dr. Carter's charitable works were more numerous than known; he always felt great sympathy with the poor, and its expression, though practical and real, was carried out without ostentation.

In 1863, while in Dublin, Dr. Carter married Miss Sarah B. J. Humphrys (second daughter of the late Dr. George Humphrys, of Harcourt Street, Dublin), who predeceased him by several years. The surviving members of the family are Mrs. Macalister (wife of Dr. C. Macalister of Liverpool) and Miss Carter.

In the early part of 1908 Dr. Carter gave up his professional practice, and went to live in retirement at Deganwy, North Wales; but he often visited Liverpool in connexion with his magisterial duties or the various charitable institutions in which he retained a warm and sympathetic interest.

Prior to private cremation, on February 6th, a service was held at Canning Street Presbyterian Church, and the esteem in which he had been held was expressed in the large attendance of professional colleagues, medical practitioners in the city, representatives of city institutions, educational and social, and a large number of citizens from all parts and in all stations in the city.

Mr. ROBERT JONES sends us the following appreciation of the work and character of his late colleague: Few men have won the admiration, love, and respect that the late Dr. Carter inspired in Liverpool during his long and honoured life in that city. His death on Sunday, February 2nd, at the age of 76, will come as a shock to many, for his name had become so intimately associated with all that was best in civic life that great numbers of people who never met him personally had learnt to regard him with affection and trust. Throughout his long life he laboured unceasingly in the cause of suffering humanity, and that not only in his profession but in many phases of social progress. He was active in combating disease and also in encouraging research work, in pressing the claims of sanitation, and in fighting the battles of all those who could not help themselves. He was above all a fighter; one could see that in his strong face, his deep-set steady eyes, his indomitable personality. And yet no man ever accused him of unfairness in argument. He was a fighter but the soul of chivalry. Time and again Dr. Carter would moderate whatever seemed afterwards even a shade over-emphatic, for he was unswervingly scrupulous in small things as in great. There are many who have been touched by the pain he appeared to suffer when he feared he had adopted too resolute an attitude. There are men to-day who treasure letters written to soften words that had caused no rancour, to defend with gentle apology an expression that from his lips could have offended no reasonable person.

He carried in his words, his bearing, his life, all the great sincerity of a prophet of righteousness. He was a puritan, a reformer, and a progressive; but he was a puritan without a breath of cant, a reformer with noble ideals, and a progressive lacking crudeness of conception. Reason ruled his life and steered his ship clear of all the rocks that await so many earnest men. He took a leading part in the social purity crusade, but no man, however spiteful, ever whispered that he was narrow-minded. An ardent advocate of temperance and himself a lifelong abstainer, he nevertheless prescribed alcohol in his professional capacity where he deemed it necessary. Oppression and injustice roused him to a white heat, but he was as simple-minded and gentle as a child. No cause need come abegging in vain to him. From the dumb appeal of animals in the Liverpool Abattoir to the unuttered claims of unborn infants (which resulted in the registration of midwives) his sympathy was flung wide.

It would seem unnecessary to add that such qualities as his were built strictly upon a rock of principle, and it is interesting to remember that when the late King of the Belgians expressed his wish to decorate Dr. Carter for his services to the School of Tropical Medicine (which he was the means of founding) he refused with indignation, for he was, as any one who knew him might have guessed, a staunch supporter of the Congo Reform Association.

As an instance of the puritan in Dr. Carter, it may be mentioned that it was said that he had never entered a theatre, and, as far as his inclinations were concerned, he never had. The following little incident will serve to show the warm kindliness of his disposition: He was called to a theatre in Liverpool one evening to attend an actress who was taken suddenly ill. Having treated her, Dr. Carter prepared to leave. She begged him to stay, however, and not only to do so, but to sit through the performance in a position where his presence would give her confidence. Rather than disappoint her and cause inconvenience to the audience, he took a seat before the stage, and so began and ended his connexion with the theatre.

His modesty, perhaps, impressed strangers most of all, and it is stated that as senior magistrate on the rota of those whose turn was to sit on the Bench he could never be induced to take the chair at the police-court, and on all occasions, despite his many public appearances, he was never one to "catch the speaker's eye."

In his professional and private life he made many friends and was intimate with distinguished men in all ranks of society. He attended Mr. Gladstone in his last illness, and was a friend of Francis Newman. He was often judged to be austere and grave, but he possessed an inexhaustible fund of kindly humour. He was full of interesting recollections of men and events, which delighted his friends. Liverpool has lost in Dr. Carter one of the sweetest and best of men.

HENRY EALES, M.R.C.S.ENG.,

SENIOR SURGEON BIRMINGHAM AND MIDLAND EYE HOSPITAL.

WE regret to hear of the death of Mr. Henry Eales, Senior Surgeon to the Birmingham and Midland Eye Hospital, which occurred, after a short illness, on February 8th. The son of the Vicar of Yealmpton in Devonshire, Mr. Eales was born at Newton Abbot in 1852, and began his medical career, as was customary in those days, by being apprenticed to the village doctor. During his apprenticeship there was a local epidemic of scarlet fever, and having to examine the urine of many patients for albuminuria, out of curiosity he examined his own, and found that it contained a large amount of albumen; as he had not had fever it is probable that it was merely the albuminuria of adolescence; but little was known on this subject at that time, and so serious was the view taken of his condition, that for about a year he was not allowed to continue his medical work. Ultimately, as his general health remained good, he was permitted to proceed, and entered as a student at University College, where he gained two silver medals in anatomy and one in materia medica. He took the Membership of the Royal College of Surgeons in 1873, and was shortly afterwards appointed House-Surgeon to the Birmingham Eye Hospital. At the termination of this appointment he became demonstrator of anatomy and medical tutor at Queen's College, but a vacancy occurring on the staff of the Eye Hospital in 1878 he was elected one of its honorary surgeons.

For several years before his death he was senior surgeon to the hospital, and was also ophthalmic surgeon to the Guest Hospital, Dudley; to the Hammerwich Hospital, Cannock; to the Balsall Heath Dispensary, to the Edgbaston Royal Deaf and Dumb Institution, and medical referee for ophthalmic cases under the Workmen's Compensation Act. At the annual meeting of the British Medical Association in Birmingham in 1911 he presided over the Section of Ophthalmology; he held office as vice-president of the Ophthalmological Society, as chairman of the Pathological Section of the Birmingham Branch of the British Medical Association, as president of the Midland Medical Society, and treasurer of the Birmingham

and Midland Counties Ophthalmological Society. He delivered the Middlemore Lecture for 1897. At one time he contributed a good many papers to the medical journals, including a Report on the State of the Retina in a Hundred Cases of Granular Kidney (*Birmingham Medical Review*, 1880), Uniocular Retinitis Albuminuria and Toxic Amblyopia (*Trans. Ophth. Soc.*). He was particularly skilful in the use of the ophthalmoscope, his opinion of the appearances in doubtful cases being of the utmost value.

Mr. Eales had built up a large consulting practice, and his death will come as a painful surprise to a wide circle of practitioners and patients who relied upon his skill. The albuminuria which had shown itself during his apprenticeship entirely disappeared by the time he came to Birmingham, but he suffered at one time severely from migraine, which had become less frequent during recent years. Last Christmas most of his family were ill with influenza, but he appeared to escape. Soon afterwards he developed a slight attack of phlebitis in the calf of the left leg. This seemed to get better, but the pain and swelling returned about ten days ago, so that he was obliged to stay in bed. On February 5th he had an attack of vomiting with syncope, and this was followed by a rise of temperature in the evening; but these symptoms were gradually improving, and on the morning of the day he died he looked and expressed himself as feeling decidedly better. A few hours later he died in another attack of syncope.

He leaves a widow, two sons, and two daughters. The older son is senior curate at Kenilworth, while the younger is the resident surgical officer at the Eye Hospital, and will probably follow his father's footsteps in his profession.

Mr. Eales was a man of singularly amiable character, and his death makes a gap which to his elder colleagues can never be filled. They were sincerely attached to him for his unfailing kindness of disposition, his high character, thorough loyalty, and devotion to his work.

LEONARD NOON, B.C.CANTAB., F.R.C.S.

THE all too small band of active research workers in bacteriology has suffered a severe loss by the death of Mr. Leonard Noon at the early age of 35. Mr. Noon's early training at Charterhouse was followed by a highly distinguished career at the University of Cambridge, which he entered in 1896. In 1898 he gained first-class honours in the Natural Science Tripos, in 1899 a major scholarship in Advanced Physiology at Trinity College, and in 1900 first-class honours in the Natural Science Tripos, Part II. He then entered St. Bartholomew's Hospital, gaining an open scholarship in Anatomy and Physiology. He subsequently held the posts of house-surgeon and ophthalmic house-surgeon in that hospital. He obtained the degree of B.C.Cantab. in 1903, the diplomas of M.R.C.S., L.R.C.P. in 1903, and that of F.R.C.S. in June, 1905. In September of that year he was appointed to a research scholarship at the Serum Department of the Lister Institute, Elstree, where Professor G. Dean was then Bacteriologist-in-Charge. During his tenure of this scholarship Mr. Noon carried out an important piece of research on the laws governing the neutralization of tetanus toxin by brain tissue. Later he was John Lucas Walker Student in Pathology at the University of Cambridge, and at the close of his tenure of this studentship became an assistant in the Inoculation Department of St. Mary's Hospital under Sir Almroth Wright. Here he remained till early in 1911, when owing to continued ill health he had to give up laboratory work entirely. His recent decease, therefore, did not come as a surprise to those who knew, but was none the less keenly felt by colleagues who had enjoyed his friendship in the past and who admired his enthusiasm for research and the critical insight which he always brought to bear on problems under investigation.

The following is a list of Mr. Noon's chief scientific publications: On the Occurrence of Toxic Compounds of Tetanus Toxin and Antitoxin, Tetanus Toxin and Brain Emulsions (*Journ. of Hyg.*, vol. vii, p. 101); Observations on the Evolution of Immunity in Disease (*Journ. of Hyg.*, vol. ix, p. 181); Histological Notes on the Origin of Rodent Ulcer (*Journ. of Path. and Bact.*, vol. xii, p. 5); Prophylactic Inoculation against Hay Fever (*Lancet*, 1911, vol. i, p. 1572); The Accuracy of Opsonic Estimations (*Lancet*, 1908, vol. i, p. 1203, with A. Fleming).

DR. WILLIAM LATHAM, one of the leading citizens of Ashton-in-Makerfield, Lancashire, died rather suddenly on January 28th, at the age of 51. He was a native of Ashton, and was apprenticed to Messrs. Fisher and Barnish, of Wigan, attending at the same time as a student the curriculum at the Liverpool Medical School. Subsequently he studied at Dublin University, and obtained the diploma of L.R.C.P.I. in 1876 and of M.R.C.S.Eng. in 1878; then, after holding resident appointments in the Liverpool Royal Infirmary, he set up in practice in his native town. He was a member of the British Medical Association, and took an active part in local affairs. He was for a time a member of the old local board, and was afterwards one of the district council representatives on the Ashton and District Education Committee; he took part also in the management of several local institutions. Mr. Latham was made a justice of the peace about four years ago. He was a keen sportsman, and greatly respected in his native town. Two years ago he retired from active practice, owing to failing health, in favour of his son, Mr. William Ewart Latham.

Universities and Colleges.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on January 22nd, under the chairmanship of the Vice-Chancellor, Dr. Herringham.

Resignation from Senate.

Dr. Thomas Buzzard has resigned his membership of the Senate as a co-opted member representing King's College.

Benefactions to University College.

The anonymous donor who a year ago presented £30,000 towards the erection of a new building at University College for architecture, sculpture, and applied statistics, including the Eugenics Laboratory, has now undertaken to bear under certain conditions almost the whole cost of the erection of the buildings in question, in the hope that at an early date it may be possible to complete the Gower Street frontage of the College.

D.Sc. Degree in Statistics.

The degree of D.Sc. in statistics was conferred on Dr. David Heron of University College, who had presented a thesis entitled "A Second Study of Extreme Alcoholism in Adults with Special Reference to the Home Office Inebriate Reformatory Data," and in addition several other contributions to the advancement of science.

Semon Lectures in Laryngology.

At the conclusion of the second Semon lecture given by Dr. McBride on January 24th, Sir Felix Semon, at the invitation of the chairman, Dr. Watson-Williams, Lecturer on Laryngology at the University of Bristol, formally presented to the lecturer the Semon memorial medal, and gave a short address expressing his gratification at the inauguration of the lectures.

Brown Animal Sanatory Institution.

Mr. F. W. Twort, M.R.C.S., L.R.C.P., superintendent of the institution, on February 6th completed his course of five lectures on the comparative study of tuberculosis and Johne's disease.

A LODGE meeting of medical Freemasons who are attending the International Medical Congress in London will be held on Monday, August 11th next, in the Grand Temple at Freemasons' Hall, Great Queen Street, W.C. The lodge will be opened at 5 p.m. and closed at 6 p.m. by the Most Worshipful the Pro Grand Master the Right Honourable Lord Ampthill, G.C.S.I., G.C.I.E., and a reception will be held at 4 p.m. in the Connaught Rooms, adjacent to Freemasons' Hall. It is hoped that all Colonial and foreign brethren who wish to be present will communicate with the Grand Secretary of their own jurisdiction as soon as possible in order that suitable arrangements may be made. Brethren in the British Isles should communicate with the Honorary Secretary of the Committee of Representatives of the Medical Lodges in London, Dr. R. J. Probyn-Williams, P.G.D., 13, Welbeck Street, Cavendish Square. Without doubt the medical members of the craft will give a most fraternally hearty reception to their brethren from the distant parts of the Empire and from foreign lands. It is doubtful if Freemasonry was ever since its ancient foundation so flourishing amongst doctors as it is at the present day.

Correspondence.

THE REPORT OF THE COMMITTEE ON FRACTURES.

SIR,—That the Committee on Treatment of Simple Fractures should have found that the results yielded by operation are somewhat better than those accruing from non-operative methods, can hardly be a matter for surprise. How could it conceivably be otherwise? Nevertheless, when we have arrived thus far, we shall find upon reflection that we have been brought no nearer to a final answer to the questions involved in the treatment of fractures. The real crux of the position is embodied in Section X of the Committee's conclusions, which reads as follows:

> It is necessary to insist that the operative treatment of fractures requires special skill and experience, and such facilities and surroundings as will ensure asepsis. It is, therefore, not a method to be undertaken except by those who have constant practice and experience in such surgical procedures.

In other words the general practitioner who has *not* "constant practice and experience in such surgical procedures" (but who has probably more fractures to treat than those who have) must adopt non-operative methods. But where and how is he to learn to do this, if in his hospital studentship he has been accustomed to see fractures operated on whenever a little difficulty is presented?

One great fact that emerges quite clearly from the whole discussion is that in the past the teaching in our schools has been inadequate and inefficient in respect of the treatment of fractures; but the present trend towards frequent operation must surely eventuate in such teaching ibecoming still more inadequate and inefficient in the hmmediate future. Put in another way, we find that we pave been giving practitioners too little teaching in the past, so we propose to remedy this by giving them ractically none at all in the future.

The skilful non-operative management of a fracture is a much more difficult and interesting surgical procedure than a skilfully performed operation upon it; it makes higher demands upon the surgeon's thoughtfulness and resource, upon his knowledge of physiological principles and his powers of clinical observation.

I cannot help wishing that Mr. Arbuthnot Lane had employed his great surgical ability in elaborating improved non-operative methods, which would have been of immeasurable value to multitudes of general practitioners and their patients. I am quite convinced that he would have obtained results very nearly as perfect as those yielded by his beautifully executed operations, and of infinitely greater value to scientific surgery and to the community.

My students understand why I refrain from adopting the easy course of operating upon fractures, except in rare instances. On the other hand, when a broken leg comes into the ward they receive quite as much and as careful teaching over it, and they learn quite as many valuable surgical principles and methods from it, as from a major abdominal operation. Personally, I have experienced great interest and learnt much that I deem of great value through habitually setting to work with my students over every case of fracture in the endeavour to devise some simple and effective plan of treatment that will be of value to them when they go out into practice; and this, if I may be absolved from arrogance, is in my opinion just what a hospital surgeon and teacher ought to do.

Briefly, it seems to me quite clear that, unless hospital surgeons and teachers are prepared to advocate that open operation on recent fractures shall be undertaken by all and sundry under all sorts of conditions, they must let it be seen that they themselves regard non-operative methods as of paramount value and importance; that they shrink from resorting to open operation in any but quite exceptional and rare instances; and that they frankly acknowledge that the necessity for treating a fracture by open operation carries with it in some measure, greater or less, an adverse reflection upon their own skill. Unless they do this, how can the general practitioner who goes forth from our medical schools be properly trained in this the most important branch of surgical work he will be called upon to undertake? Obviously he cannot.—I am, etc.,

R. HAMILTON RUSSELL,
Senior Surgeon to the Alfred Hospital.

Melbourne, Jan. 8th.

THE "CONTROLLED" THERAPEUTIC USE OF NEW TUBERCULIN.

SIR,—The article on "The Controlled Therapeutic Use of New Tuberculin," by Dr. Rigg, is an apt illustration of the danger of rushing to conclusions on very flimsy and wretchedly controlled observations.

An actuary who has no medical knowledge is hardly the person to suggest a practicable plan of controlling the therapeutic use of tuberculin, or to select and appraise the criteria for estimating improvement or the reverse, unless at least he has some knowledge of pulmonary tuberculosis and the different methods of applying tuberculin effectively. If the tuberculin is not used in a proper way in order to secure the best results, it hardly matters what the criteria are or what the controls. The general condition, as judged by the state of nutrition, including difficult analyses of the urine (Mitulescu's work), the character of the pulse, the tongue, digestion, and the temperature, and even the energy of the patient when he is up and about, cannot be jauntily relegated to a secondary place because Dr. Rigg deems it too fallacious. Even the state of the blood before and after treatment is not subjective but objective evidence (Arneth's work and the evidence of other clinicians show this clearly). Variations in weight may also help, provided the patient is not placed under unusual conditions. I admit that if these patients were kept in hospital for observation a new and disturbing factor was at once introduced, the effect of which would vary in individual cases. Further, the changes in the character of the sputum properly analysed is another criterion which helps greatly in measuring the degree of improvement, and the suggestion that "the extrusion of phlegm is so obviously under the control of the patient, and temporary absence of tubercle bacilli in the sputum of patients suffering from active pulmonary tuberculosis is not infrequent," is a gratuitous concession to want of care in the control of the observations.

Having, then, decided to set aside—perhaps at the behest of the actuary—the most obvious means of measuring the effect of subsequent treatment, Dr. Rigg, under the patronage of Dr. Batty Shaw, tells us that the only criterion is "alteration of the physical signs, and of these the greatest attention was paid to râles."

I cannot imagine a more untrustworthy way of judging the effects of treatment than by one or two chance observations upon, and descriptions of, râles in different parts of the lung. Râles are sounds varying infinitely in character at different times of the day, in different conditions of atmosphere, with the condition of rest, or otherwise, and also with conditions, not only in the large lungs, but sometimes outside them, but especially with the state of the bronchial tubes. Râles, too, are themselves modified very greatly by cough, breathing, and the condition of the tissue through which the sounds are conducted, and vary also with the distance of the tubes or tube in which the sound is produced from the surface point of observation. The degree of accuracy in the description of such râles depends largely upon the experience of the examiner and his personal, often inborn, aptitude for distinguishing the ever-changing variations that literally defy exact analysis and description. I admit that a man with a very fine musical ear, highly trained in observing these fine, almost elusive, differences, might be able to set down in technical language the character of the sounds he hears in different sections of a diseased lung, but I doubt whether even such an examiner could properly describe the minute details of these sounds with any approach to accuracy in any reasonable time. Accordingly, there is an uncontrolled personal equation in the proper valuation of these subjective impressions upon the ear which would render them far less trustworthy as criteria than the condition of pulse, of blood, of weight, of urine, of temperature, and of sputum, in which the personal equation of the observer is eliminated. Dr. Rigg eliminates the subjective impressions of the observed for the subjective impressions of the observer, and at the same

time he introduces as criteria subjective impressions which almost defy exact description. Without a doubt changes in the amount, character, and contents of the sputum would be a far safer guide in determining the improvement, or otherwise, of the lung under the influence of treatment than the criterion set up by Dr. Rigg.

The memory of râles, visualized by means of diagrams, cannot be trusted when compared with the auditory impressions upon the observer after an interval of three months. Such a comparison and description to be of any value must first be practised for a long time before it can be trusted as an art. Isolated impressions of this kind without such careful and close study would vitiate the results. The mere extension of the râles might be of trifling importance compared with changes in the râles indicating increased intensity of the process. Seeing, then, that râles undergo such extraordinary changes that might easily elude any but the most highly trained and acutely sensitive musical ear, one wonders that any one should suggest such a treacherous and elusive method of estimating changes in the lungs as an index of improvement or otherwise. It would be interesting to know how long these investigations upon the physical signs occupied, and whether Dr. Rigg has the ear to recognize and the skill to describe accurately his own auditory impressions.

But these objections to the selection of the criteria pale into insignificance when we come to consider the method of selecting the cases for treatment. The cases "presented all grades of involvement of the lungs, from very slight to extensive (one apex to five lobes,)" etc., and although the skilled physician is able with tolerable accuracy, not by means of râles but by means of physical signs generally, to classify tuberculous disease of the lungs in at least three recognized groups, this usual grouping of cases was ignored and the patients were chosen by lot. Was this also the idea of the actuary? I hardly think the actuary would have so decided if he had known that cases of lung disease can be classified more or less accurately into stages. This would have, at any rate, diminished the influence of pure chance. As it is, Heaven only knows what luck determined in this process of selection, because, when there was such a variety of forms of disease, how could the drawing of lots possibly bring it about that two similar series of cases were selected? I do not think that much attention will be paid to work of this sort, even though an actuary has had a hand in it; but we need not bother our heads about either the actuary or the methods of choice, because the method of treatment is unlike any method of using tuberculin in the treatment of tuberculosis of the lungs which has claimed success.

The largest dose used is described as 0.7 mg. of tuberculin T.R. What this means I do not know. T.R. is a liquid preparation, and strictly cannot be measured in milligrams. If 1 mg. means $\frac{1}{1000}$ c.cm. of T.R., then 0.7 mg. is less than $\frac{1}{1000}$ c.cm. of T.R. Those authorities whose opinions are most valued in this special method of treatment would expect no useful effect from such a dose as a maximum. If 0.7 mg. means 0.7 mg. of dead tubercle bacilli, I must tell Dr. Rigg that this is a very inaccurate and misleading method of describing dosage, because there is no proper ratio between the weight of dead tubercle bacilli to the bulk of the liquid preparation T.R. Thus, I should expect no appreciable effect from such a method of administration, nor any appreciable improvement in the patient, but I would not in any case dream of relying upon physical signs, especially râles, noted once, and again in three months' time, for assessing the value of tuberculin treatment.

I have already laid down in my book a reasonable plan for determining the efficacy of various methods of treating pulmonary tuberculosis: (1) A series of cases in various stages should be grouped. (2) No other method of treatment but the one under consideration should be adopted. (3) The results in all cases should be published, and, most important of all, an opinion should be formed of the relative merits of the rival systems, not in three months' time, by physical signs, but in three years' time, by all the recognized methods of estimating the effects of treatment.

The medical authorities at Brompton Hospital attempted to deal with pulmonary tuberculosis, its nature, its diagnosis, and its treatment in a course of lectures occupying a week. This was pretentious enough, but it would need a genius with superhuman powers to arrive at approximate accuracy concerning the value of tuberculin when all the recognized criteria are calmly set aside and a new criterion is introduced, full of pitfalls even for those best versed, not only in detecting and describing physical signs, but also in deducing therefrom the mixed and variable underlying conditions of tissue and environment upon which the physical signs depend.—I am, etc.,

W. CAMAC WILKINSON, M.D., F.R.C.P.

London, W., Feb. 6th.

THE SUPPORTS OF THE UTERUS.

SIR,—With all due respect to Dr. Fothergill, many of us who have studied anatomy, gynaecology, and obstetrics cannot feel so confident about the true supports of the pelvic viscera. Dr. Moritz may have "conclusively shown" that the so-called ligaments of Mackenrodt are perivascular tissue surrounding the vessels supplying the uterus and not separate ligaments, and very likely he is correct, yet others may be of a different opinion, and "show conclusively" that the ligaments should be interpreted in some other way. Let us turn to a subject apparently far less subtle—the musculature of the pelvic floor, a most important matter in respect to prolapses. The levator ani muscle has been known for centuries, and so has the coccygeus, yet eminent living anatomists like Peter Thompson and Paramore are apparently not agreed as to the precise interpretation, subdivisions, and functions of these structures, which need no aid from the microscope, and require little more, it would seem at first sight, than careful dissection and inspection of preparations in museums. Indeed, I had in mind the views of these authorities (as summed up in a leader in the JOURNAL, vol. ii, 1910, p. 392) when I stated in the course of my criticisms on Liepmann's fine *Atlas der Operations-Anatomie* that there remains much uncertainty about the supports of the uterus.—I am, etc.,

London, Feb. 8th. THE REVIEWER.

*** In Dr. Fothergill's letter there was a misprint. The title of Dr. Moritz's paper was, "On the nature of the so-called ligaments of Mackenrodt," and not as printed.

THE CONSTITUTION OF THE ASSOCIATION.

Local Medical Committees and the Divisions.

SIR,—Unless we are prepared to rise to the occasion, our Association, which has come rather badly out of the recent crisis, will never recover the proud position it has hitherto held. Eventually we must give up our present constitution, and, no matter at what cost, transform ourselves into a strong trades union. This, however, cannot be effected immediately, and for the next six months at all events we must make use of the organization we possess to protect ourselves against our two natural enemies—the Insurance Committees and the Approved Societies.

In the early stages of the fight we were told that the Local Medical Committees would be kept in touch with each other by the Branch Councils, who in turn would be co-ordinated by the Central Council.

So far is this from being the case, that in most instances even the committees in adjoining areas are not in touch, and instead of an ordered campaign, we find each unit fighting its own battle without support from its neighbours. This is largely due to the present constitution of the Divisions, and it must be altered before the provisional three months have expired. In peace or in war the true unit now is the local insurance area, and the Council should exercise their power under Article 13 to "determine, recognize, and declare by resolution" the reformation of the Divisions on the above plan. There is no doubt that if we do not carry this into effect somebody else will do it for us. Local Medical Committees, consisting of members and non-members, are, or shortly will be, constituted everywhere, and self-interest alone will force them to combine; surely it is wiser to recognize this in time, and to place our organization at their disposal. But for goodness sake do it at once—to-morrow it will be too late.—I am, etc.,

LACHLAN FRASER, M.D., M.S.,
President of the North of England Branch.

North Shields, Feb. 10th.

Medical News.

SIR WILLIAM COLLINS will lecture on an ambulance service for London, at the Polyclinic, 22, Chenies Street, Gower Street, on Monday, February 17th, at 5.15 p.m.

AT a meeting of the Royal Microscopical Society on Wednesday evening next, at 8 p.m., Dr. E. J. Spitta will make a report upon the lenses of the late Joseph Jackson Lister, father of Lord Lister.

WE are asked to state, for the information especially of medical men sending patients from a distance, that out-patients are now seen at the National Hospital for the Paralysed and Epileptic, Queen Square, W.C., on Monday, Tuesday, Thursday, and Friday in each week.

THE annual meeting of the After-Care Association will be held at the rooms of the Medical Society of London on February 25th, at 2.45 p.m., when Dr. Hubert Bond will open a discussion on after-care in cases of mental disorder and the desirability of extending its scope.

DR. E. H. STARLING, Professor of Physiology in University College, London, has been elected a member of the Athenaeum Club under the rule which permits the committee annually to elect three persons "of distinguished eminence in science, literature, the arts, or for public service."

AT a meeting of the Zoological Society of London on February 4th, Sir John Rose Bradford in the chair, Mr. H. G. Plimmer, F.R.S., Pathologist to the Society, presented his annual report on the deaths which had occurred in the gardens during the past year. An examination had been made of the blood of every animal that had died, with the result that parasites had been discovered in 140 cases, and in 80 of these for the first time.

THE next quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland will be held, at the invitation of Dr. Rotherham, at the Darenth Industrial Colony, Dartford, Kent, on Thursday, February 20th. In the morning the members will inspect the colony, which comprises female and male workshops and wards for adult imbeciles, workshops and wards for the feeble-minded section, and a training school and wards for imbeciles under 16 years of age. In the afternoon, at a meeting under the chairmanship of the president, Dr. J. G. Soutar, papers will be read by Dr. J. Beveridge Spence on assistant medical officers in asylums, and by Dr. A. O. Spensley on the system of industrial training at the Darenth Colony.

A SOCIETY for the advancement of clinical study, recently organized in New York City, maintains a bureau to furnish information to resident and visiting physicians regarding the clinical facilities of the hospitals and laboratories of the greater city. It has installed a bulletin board at the Academy of Medicine, in charge of a special clerk, who will answer telephone inquiries. The bulletin board will consist of two sections. On one will be posted month by month the regular clinics, medical and surgical, and also laboratory demonstrations held at stated hours; on the other announcements of daily operations and demonstrations of cases, which, as far as possible, will be announced on the preceding day.

THE Home Secretary is about to appoint two additional inspectors under the Cruelty to Animals Act, 1876. The appointment will be for one year in the first instance, and afterwards probably for five years. The initial salary will be £500, together with the travelling allowances usual in the Civil Service; and if the appointment is continued will rise by annual increments of £20 to £600. The duties of the inspectors will be to pay frequent visits to all premises within their respective districts which are registered under the Act, in order to see that the provisions of the law and the conditions imposed by the Secretary of State are fully obeyed, and to carry out any other duties of inspecting, reporting, and advising with which they may be entrusted by the Secretary of State. They will be required to give their whole time to these duties. For the purposes of inspection England and Wales will be divided into two districts. The inspector for the Southern District will reside in London, and will also act as assistant to Dr. Thane, the Chief Inspector. The inspector for the Northern District will reside at a convenient centre within his district. The inspectors may as circumstances require be transferred from one district to the other or to Scotland. Candidates for these posts, who should be registered medical practitioners, should apply to the Private Secretary, Home Office, London, and their applications should be accompanied by any testimonials and evidence of their qualifications which they desire to submit.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

ANSWERS.

THE TITLE OF DOCTOR.

F. J. N.—Appended to the by-laws of the Royal College of Physicians of Ireland is the following resolution of the College:

That, in the opinion of the President and Fellows, a Fellow, Member, or Licentiate of this College may by courtesy and usage call himself "Doctor," but he has no right to use the letters "M.D.," or call himself "Doctor of Medicine," unless he holds that degree from a university.

LETTERS, NOTES, ETC.

PROVERBIAL MEDICINE.

DR. WM. BRAMWELL (Liverpool) writes: I was greatly interested in the article on the above subject, but disappointed that so little was said about diet as mentioned in Homer. The following quotation, though not a proverb, is a wonderful touch of Nature, and would be a sweet morsel for a temperance lecturer. It is Hector's rebuke to his mother because she offered him wine when he made that short visit to his home in order to induce his mother Paris to return to the valley—

> Μή μοι οἶνον ἄειρε μελίφρονα, πότνια μῆτερ,
> Μή μ' ἀπογυιώσῃς, μένεος δ' ἀλκῆς τε λάθωμαι.
> (*Il.*, vi, 264.)

(Do not raise wine, that cheers the heart, to me, revered mother, lest this unnerve me, and I forget my might and my vigour.)

This reminds me of a very amusing incident in the life of the late J. B. Gough, the great temperance advocate, who, when lecturing at one of the universities, was confronted by a stalwart young athlete who went on to the platform armed with that passage in 1 Tim. v, 23, where St. Paul bids Timothy to take a little wine for his stomach's sake. Gough took a long look at him amid the roars of the undergraduates, and then said: "Gentlemen, look at this young man! Look at him! Look at his muscles! Look at his biceps! He has the strength to fell an ox, and yet he says he wants a little wine for his stomach's sake!" Needless to say, the incident ended in the complete triumph of the lecturer.

TREATMENT OF CHRONIC BRONCHITIS AND EMPHYSEMA.

DR. T. RUELL ATKINSON (Chadwell Heath) writes: Noticing a letter in the JOURNAL for February 1st from Dr. Read, giving his experience of the benefit he has received from the use of heroin and menthol pastilles, may I say that for several winters in succession I have had a winter cough which I dub "bronchial catarrh"? We all know how common this form of catarrh is in our climate and how difficult it is to cure. It comes on in the late autumn, and has generally lasted with me far on into the following spring. I have tried all sorts of remedies, including heroin, menthol, terpin, etc., but with very little relief. This season, when it once more returned, it occurred to me to try the inhaler made by Squire and recommended for consumptives. On it I used drops containing carbolic acid, creosote, tr. iodi, sp. etheris, and sp. chlorof. For two or three successive nights I wore it in bed, and also wore it at home during the daytime before and after my rounds. It cured the cough in a very few days, and I have had no return of it this winter. Of course the weather has been exceptionally mild, and this mildness may account for the disappearance of the cough in Dr. Read's case and in my own. But I have had the cough in other mild winters, and I incline to the belief that the inhalation cured it. The treatment seems sensible. I shall certainly try it another year if the cough returns. Patients, however, to whom I have suggested this line of treatment, have said they would *prefer the cough*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.